

- 8 ABR. 1975

P. - 59.754

HOE 74/F 115

- 8 ABR. 1975

7-046-1976
CONCEDIDA

436399

MEMORIA DESCRIPTIVA

Int. Cl.: C07C/A61K

para solicitar PATENTE DE INVENCION EN ESPAÑA por 20 años

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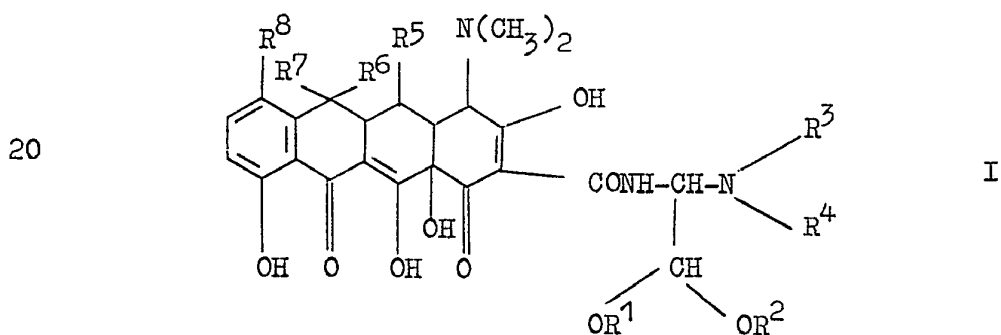
por: "PROCEDIMIENTO PARA LA PREPARACION DE TETRACICLINAS"
(Clase Internacional C07c; A61k)

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Es sabido que se pueden hacer reaccionar tetraciclinas en el grupo 2-carbonamido con aldehidos y aminas para formar los correspondientes derivados aminoalcohólicos. Mientras que el componente amínico puede ser hecho variar dentro de amplios límites, se está limitado en lo que se refiere a la elección del componente carbonílico. Así, por ejemplo, las cetonas no son apropiadas para esta reacción, y entre los aldehidos sólo reaccionan bien los que son especialmente reactivos, tales como el formaldehido.

Se ha encontrado ahora que con utilización de los aldehidos del tipo de glioxalmonoacetal se logra una formación sorprendentemente buena de derivados de tetraciclina solubles en agua.

Objeto del invento son tetraciclinas sustituidas en el grupo amido, de la fórmula general



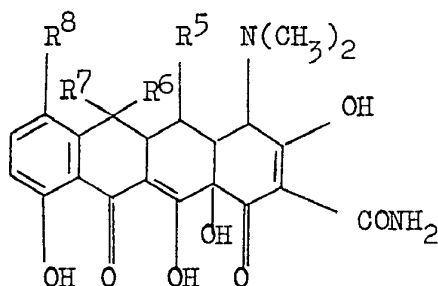
25 en la que R¹ y R², que con iguales, significan un radical
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alcohilo de bajo peso molecular con 1 a 5 átomos de car
bono o conjuntamente un grupo etileno o propileno; R^3 y
 R^4 , que pueden ser iguales o diferentes, representan hi
drógeno, alcohilo eventualmente ramificado con 1 a 6,
5 preferiblemente 1 a 4 átomos de carbono, que eventual-
mente puede estar sustituido una o varias veces, de igual
o de diferente modo, con un grupo hidroxilo, un grupo
dialcoholamino de bajo peso molecular, un grupo dialcoholi
carbamoilo de bajo peso molecular, un grupo alcoxicarbon
10 nilo de bajo peso molecular, un grupo fenilo, un radi-
cal heterocíclico, especialmente un anillo de 5 ó 6 miemb
ros eventualmente interrumpido por oxígeno y/o por ni-
trógeno, o un grupo carboxiló, pudiendo en el último de
los casos estar sustituido el grupo alcohilo también
15 además por un grupo amino, o representan cicloalcohilo
con 5 a 7 átomos de carbono, y en donde R^3 y R^4 pueden
también estar cerrados para formar un anillo de 5 ó 6
miembros, saturado o insaturado, eventualmente inte-
rrumpido por un átomo de nitrógeno o por un átomo de
20 oxígeno, que eventualmente puede estar sustituido con un
grupo alcohilo de bajo peso molecular, un grupo hidroxiali
cohilo de bajo peso molecular, un grupo carboxialcohilo
de bajo peso molecular, un grupo hidroxilo o carbonilo;
 R^5 y R^6 que pueden ser iguales o diferentes, significan
25 hidrógeno o un grupo hidroxilo; R^7 significa hidrógeno o

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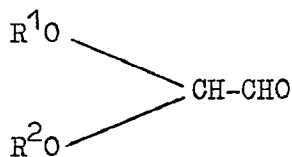
un grupo metilo; R^6 y R^7 significan conjuntamente también un grupo metileno; y R^8 significa hidrógeno, cloro, bromo o un grupo dialcoholamino de bajo peso molecular con 1 a 4 átomos de carbono, y sus sales fisiológicamente compatibles.

Objeto del invento es además un procedimiento para la preparación de los compuestos mencionados, que está caracterizado porque se hace reaccionar una tetraciclina de la fórmula II



II

en la que los radicales R^5 hasta R^8 poseen los significados arriba mencionados, eventualmente en forma de una de sus sales, con un aldehido de la fórmula III

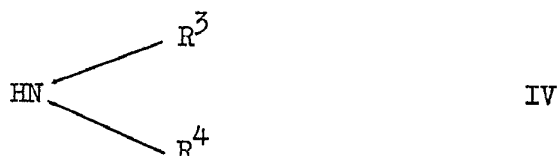


III

en la que R^1 y R^2 poseen los significados arriba mencio

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nados, con una amina de la fórmula IV



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en la que los radicales R^3 y R^4 poseen los significados arriba mencionados, eventualmente en forma de una de sus sales.

10 Como compuestos de la fórmula II pueden emplearse todas las tetraciclinas con grupo amido no sustituido que pueden ser preparadas por vía de fermentación o por vía parcialmente sintética, tales como por ejemplo tetraciclina, oxitetraciclina, 7-clorotetraciclina, 7-bromotetraciclina, 6-desmetil-7-clorotetraciclina, 6-desmetiltetraciclina, 6-desmetil-6-desoxi-tetraciclina, 6-desoxitetraciclina, 6-desoxi-5-oxi-tetraciclina, 4-desdimetilamino-5-oxitetraciclina, 6-desmetil-6-desoxi-7-dimetilaminotetraciclina, 6-desmetil-6-desoxi-7-dietilaminotetraciclina, 6-desmetil-6-desoxi-6-metilen-tetraciclina y 6-desmetil-6-desoxi-5-hidroxi-6-metilentetraciclina.

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25 Como ejemplos de glioxalmonoacetales se mencionarán especialmente los dimetil-, dietil-, dipropil-, dibutil-monoacetales así como el etilenglicolmonoacetal cíclico. La preparación del componente acetálico

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co puede efectuarse del modo descrito en Helv. Chem. Acta 18, 514 (1935).

Como componentes amínicos de la fórmula IV susceptibles de emplearse de acuerdo con el invento
5 entran en consideración, además de amoníaco, por ejemplo, las siguientes aminas alifáticas o heterocíclicas primarias o secundarias : metilamina, etilamina, n-pro
pilamina, isopropilamina, n-butilamina, isobutilamina, pentilamina, hexilamina, dimetilamina, dietilamina,
10 di-n-butilamina, di-isobutilamina, di-n-hexilamina, ciclo
pentilamina, ciclohexilamina, cicloheptilamina, dieti
laminoetilamina, bis-(dietilaminoetil)-amina, etanola
mina, dietanolamina, metilhidroxietilamina, bencilamina, dibencilamina, β -feniletilamina, 2-morfolinoetilamina,
15 2-piperidinopropilamina, 2-pirrolidinoetilamina, dime
tilcarbamoiletilamina, éster etílico de glicina, glicina, alanina, leucina, treonina, valina, fenilalanina, ácido aspártico, ácido glutámico, ácido α -aminobutírico,
lisina, ornitina, arginina, prolina, histidina, piperi
20 dina, pirrolidina, piperazina, morfolina, α -metilpirro
lidina, α,β - o α,α -dimetilpirrolidina, N-metilpiperazi
na, N-(β -hidroxietil)-piperazina y 4-carboxietilpiperazi
zina.

El procedimiento de acuerdo con el invento
25 se realiza, por ejemplo, disolviendo o suspendiendo una
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tetraciclina de la fórmula II, o una de sus sales, en un disolvente apropiado tal como, por ejemplo, en un alcohol de bajo peso molecular, a modo de ejemplo etanol, propanol, isopropanol, butanol, glicol, o un éter, tal como por ejemplo glicolmonometiléter, glicoldimetiléter, dioxano, tetrahidrofurano, o en tetrametilurea, dimetilformamida, hexametiltriamida de ácido fosfórico, N-metilpirrolidina, o en un hidrocarburo halogenado de bajo peso molecular tal como, por ejemplo, cloroformo o cloruro de metileno, y haciendo reaccionar a temperaturas entre aproximadamente 0 y 100°C, preferiblemente desde alrededor de 20 hasta alrededor de 50°C. Si se utilizan cantidades en exceso de compuestos de la fórmula III o de la fórmula IV, el exceso puede variar dentro de amplios límites y encontrarse, por ejemplo, entre alrededor de 1 mol y alrededor de 10 moles. En general, no obstante, es suficiente trabajar con cantidades aproximadamente equimolares o con un pequeño exceso.

Los participantes en la reacción pueden ser disueltos en cualquier orden de sucesión o incorporados en el disolvente en sustancia. Sin embargo, es ventajoso mezclar el glioxalacetal III con el componente amínico IV en el disolvente y añadir a continuación la tetraciclina III en forma sólida.

Después de haber agitado durante varias

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horas - al realizar la reacción a la temperatura ambiente la duración de la reacción es en general de aproximadamente tres horas - bajo un gas inerte, tal como por ejemplo nitrógeno, los productos de reacción pueden obtenerse, por ejemplo, por concentración de la solución en vacío hasta menos de 1/3 del volumen original de la solución y por posterior adición de un disolvente no polar tal como por ejemplo éter, éter de petróleo o ciclohexano, en forma sólida y pura.

El procedimiento de acuerdo con el invento puede realizarse en una sola etapa o en dos etapas, por ejemplo como transaminoalcoholilación. Para la transaminoalcoholilación, que puede llevarse a cabo tanto con aislamiento como sin aislamiento del compuesto aminoalcohílico, pueden emplearse, por ejemplo, compuestos aminoalcohólicos de compuestos H-ácidos, tales como por ejemplo agua, alcoholes, imidas, aminas secundarias o derivados de ácido malónico, que luego se hacen reaccionar con el componente de tetraciclina.

Como agentes formadores de sales fisiológicamente compatibles del producto de la fórmula I según el invento entran en consideración, por ejemplo, ácidos minerales tales como, por ejemplo, ácido clorhídrico, ácido sulfúrico, ácido nítrico, ácido fosfórico, así como ácidos orgánicos tales como, por ejemplo, áci-

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do acético, ácido cítrico, ácido maleico, ácido succíni-
co y ácido tartárico. Los agentes formadores de sales
orgánicas pueden poseer por sí mismos actividad farma-
céutica, tal como por ejemplo penicilinas, cefalospori-
5 nas, ácido pantoténico, hemisuccinato de cloramfenicol,
ácido salicílico, ácido ascórbico o ácido nalidíxico.

La preparación de las sales de los produc-
tos que pueden obtenerse según el invento puede llevarse
a cabo, por ejemplo, por combinación de soluciones
10 equimolares de los componentes en disolventes polares,
tales como, por ejemplo, agua, alcohol o dimetilforma-
mida, en cuyo caso las sales precipitan o se recuperan
mediante secado por congelación, concentración por eva-
poración o precipitación. El componente ácido puede ser
15 añadido en este caso durante la reacción o sólo después
de haberse efectuado la reacción de tetraciclina, acetal
y amina. Puede llegarse también a sales de los produc-
tos finales empleando de acuerdo con el invento el com-
ponente de tetraciclina o el componente amínico en forma
20 de sus sales.

Es sorprendente la buena formación de los
productos de acuerdo con el invento con rendimientos muy
elevados, toda vez que esta reacción discurre sólo de
mala manera con otros aldehídos - exceptuando el formal-
25 dehído-. Dado que ya el acetaldehído, en el caso de reac

ciones con tetraciclinas y aminos, manifiesta una considerable disminución de la capacidad para reaccionar en comparación con el formaldehído, no podía esperarse que la utilización según el invento de un acetaldehído sustituido y ramificado, es decir que desde el punto de vista estérico posee condiciones previas para la reacción muchísimo más desfavorables, condujese a una reacción que transcurriese fácilmente con elevados rendimientos

Las tetraciclinas sustituidas en posición 2 con carboxamido son empleadas ya desde hace años con éxito en la quimioterapia de infecciones bacterianas.

Los compuestos susceptibles de prepararse de acuerdo con el presente invento se caracterizan por una elevada solubilidad en agua y por una buena compatibilidad, por lo cual son especialmente apropiados para la administración por vía parenteral.

Otra ventaja más de los compuestos de acuerdo con el invento estriba en su buena estabilidad en solución. Así, por ejemplo, las soluciones manifiestan una buena estabilidad y resistencia en lo que se refiere a alteraciones de color y a claridad y transparencia.

Los productos del procedimiento poseen además de ello una actividad acrecentada contra *S. typhimurium*, sorprendente e imprevisible, en comparación con

las tetraciclinas.

5 Para la administración entran en consideración en primer término soluciones con una concentración de aproximadamente 1 a 10%, preferiblemente soluciones acuosas al 2 hasta 5% o también soluciones tampón acuosas con valores de pH entre alrededor de 4 y 9.

10 No obstante, los productos del procedimiento pueden ser utilizados también, por ejemplo, en forma de tabletas, grageas o cápsulas, que pueden ser preparadas utilizando las sustancias excipientes y auxiliares usuales, tales como por ejemplo almidón, talco, lactosa, etc.

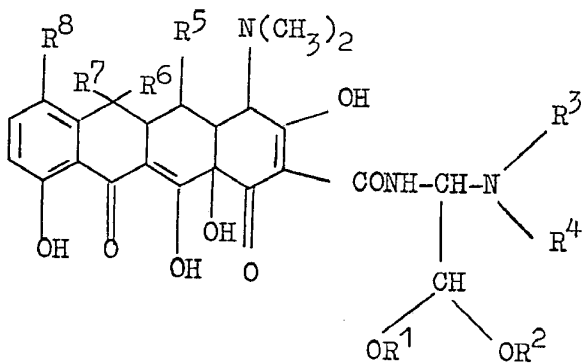
15 La cantidad de sustancia activa por cada dosis individual puede encontrarse, por ejemplo, entre alrededor de 200 y alrededor de 1.500 mg, preferiblemente entre alrededor de 250 y alrededor de 500 mg.

También es posible la combinación con otros agentes quimioterapéuticos tales como, por ejemplo, penicilinas, cloramfenicol, gentamicina o sulfonamidas.

20 Como ejemplos de compuestos susceptibles de prepararse de acuerdo con el invento de la fórmula general I

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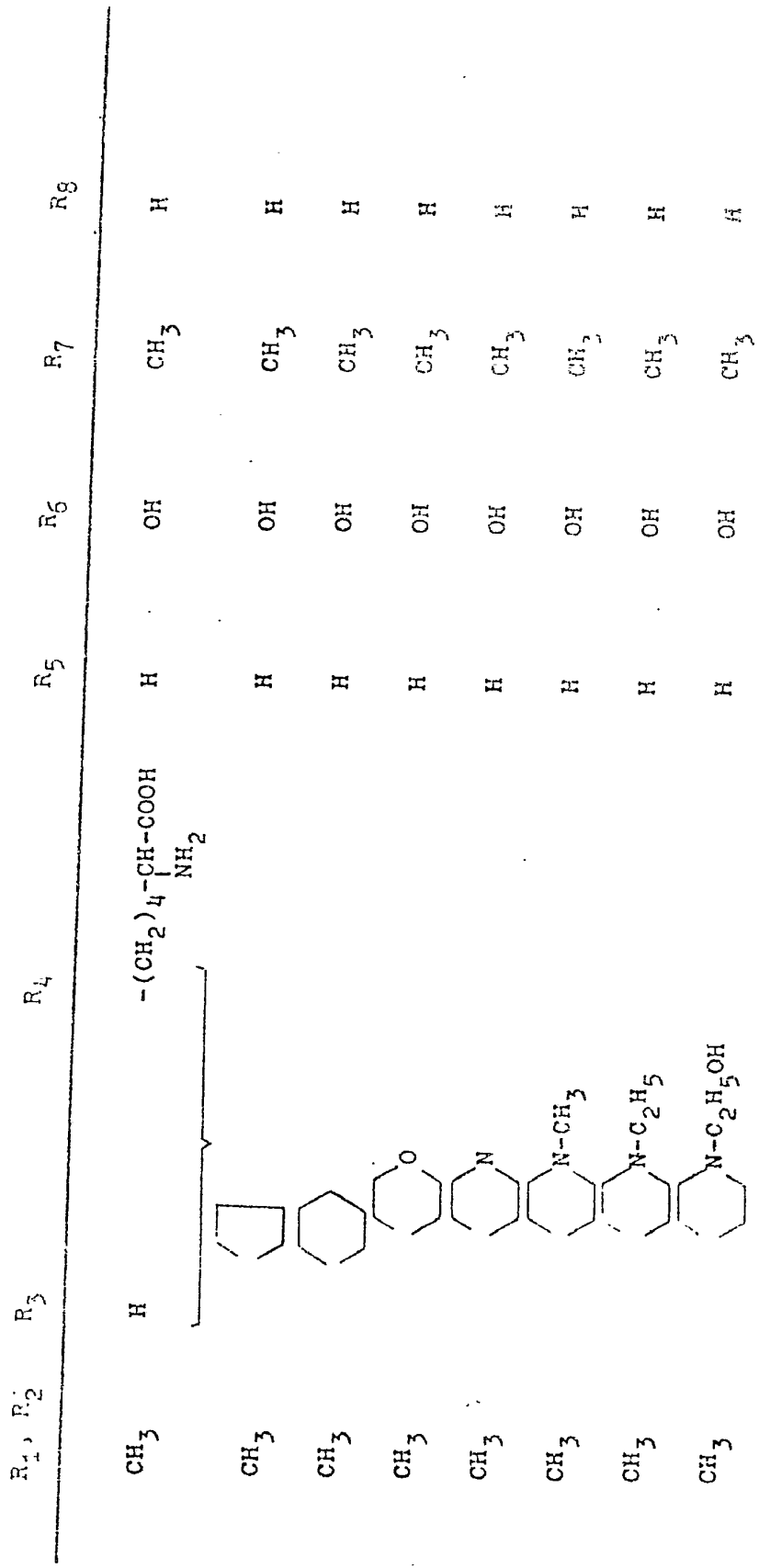
I

10 se mencionarán en especial los derivados de las tetraci-
 clinas de la Tabla I, de las oxitetraciclinas de la Ta-
 bla II, de las clorotetraciclinas de la Tabla III, de
 las 6-desoxi-oxitetraciclinas de la Tabla IV y de las
 6-desmetil-7-clorotetraciclinas de la Tabla V, que se
 especifican en lo que sigue, concerniendo las porciones
 15 designadas con A en las respectivas tablas a los com-
 puestos preferidos aún más especialmente. En el interés
 de obtener una mejor visión de conjunto, en lugar de men-
 cionar nominalmente a los compuestos se especificaron en
 las tablas solamente los sustituyentes R¹ hasta R⁸, a
 20 partir de los cuales, juntamente con la fórmula general
 I, se deduce directamente la constitución de los compues-
 tos individuales.


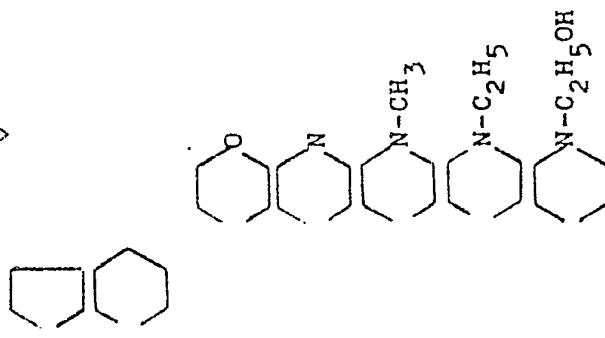



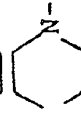
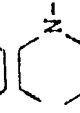
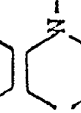

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T A B L A I A.

R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
CH_3	CH_3	CH_3	H	OH	CH_3	H
CH_3	CH_3	C_2H_5	H	OH	CH_3	H
CH_3	C_2H_5	C_2H_5	H	OH	CH_3	H
CH_3	$n-C_3H_7$	$n-C_3H_7$	H	OH	CH_3	H
CH_3	$n-C_4H_9$	$n-C_4H_9$	H	OH	CH_3	H
CH_3	H	CH_2-COOH	H	OH	CH_3	H
CH_3	H	$CH_2-COOC_2H_5$	H	OH	CH_3	H
CH_3	H	$CH_3-CH-COOH$	H	OH	CH_3	H
CH_3	H	$CH_3-CH-COOC_2H_5$	H	OH	CH_3	H
CH_3	H	$-CH_2-CH_2-COOH$	H	OH	CH_3	H
CH_3	H	$-CH_2-CH_2-COOC_2H_5$	H	OH	CH_3	H

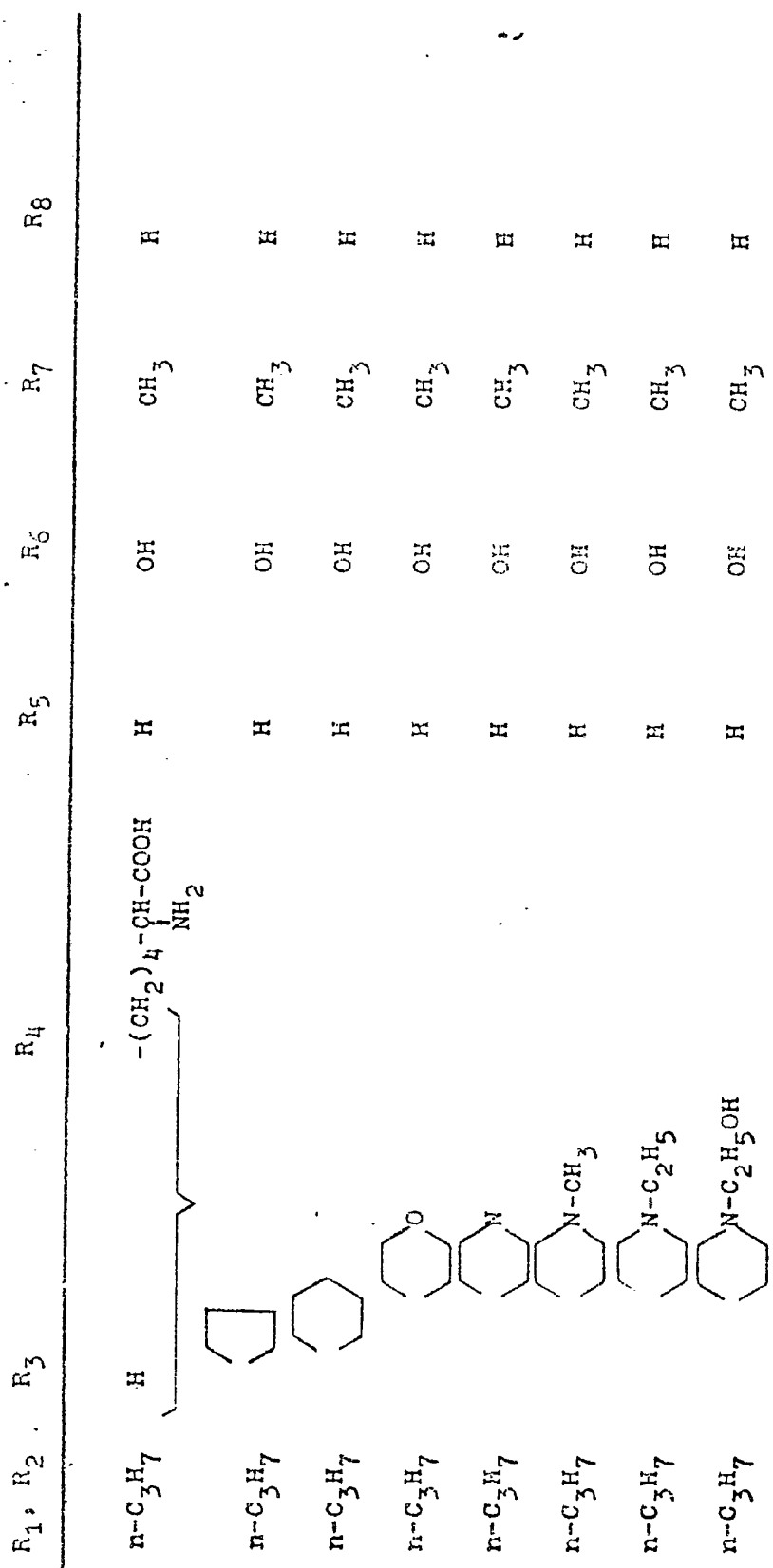


R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
C ₂ H ₅	C ₂ H ₅	CH ₃	CH ₃	H	OH	CH ₃	H
C ₂ H ₅	C ₂ H ₅	CH ₃	C ₂ H ₅	H	OH	CH ₃	H
C ₂ H ₅	C ₂ H ₅	C ₂ H ₅	C ₂ H ₅	H	OH	CH ₃	H
C ₂ H ₅	C ₂ H ₅	n-C ₃ H ₇	n-C ₃ H ₇	H	OH	CH ₃	H
C ₂ H ₅	C ₂ H ₅	n-C ₄ H ₉	n-C ₄ H ₉	H	OH	CH ₃	H
C ₂ H ₅	C ₂ H ₅	H	CH ₂ -COOH	H	OH	CH ₃	H
C ₂ H ₅	C ₂ H ₅	H	CH ₂ -COOC ₂ H ₅	H	OH	CH ₃	H
C ₂ H ₅	C ₂ H ₅	H	CH ₃ -CH-COOH 	H	OH	CH ₃	H
C ₂ H ₅	C ₂ H ₅	H	CH ₃ -CH-COOC ₂ H ₅ 	H	OH	CH ₃	H
C ₂ H ₅	C ₂ H ₅	H	-CH ₂ -CH ₂ -COOH	H	OH	CH ₃	H
C ₂ H ₅	C ₂ H ₅	H	-CH ₂ -CH ₂ -COOC ₂ H ₅	H	OH	CH ₃	H








R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
C ₂ H ₅	H	$-(\text{CH}_2)_4-\text{CH}-\text{COOH}$ NH ₂	H	OH	CH ₃	H
C ₂ H ₅			H	OH	CH ₃	H
C ₂ H ₅			H	OH	CH ₃	H
C ₂ H ₅			H	OH	CH ₃	H
C ₂ H ₅			H	OH	CH ₃	H
C ₂ H ₅			H	OH	CH ₃	H
C ₂ H ₅			H	OH	CH ₃	H
C ₂ H ₅			H	OH	CH ₃	H
C ₂ H ₅			H	OH	CH ₃	H

R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_3H_7$	CH_3	CH_3	H	OH	CH_3	H
$n-C_3H_7$	CH_3	C_2H_5	H	OH	CH_3	H
$n-C_3H_7$	C_2H_5	C_2H_5	H	OH	CH_3	H
$n-C_3H_7$	$n-C_3H_7$	$n-C_3H_7$	H	OH	CH_3	H
$n-C_3H_7$	$n-C_4H_9$	$n-C_4H_9$	H	OH	CH_3	H
$n-C_3H_7$	H	CH_2-COOH	H	OH	CH_3	H
$n-C_3H_7$	H	$CH_2-COOC_2H_5$	H	OH	CH_3	H
$n-C_3H_7$	H	$CH_3-CH-COOH$ 	H	OH	CH_3	H
$n-C_3H_7$	H	$CH_3-CH-COOC_2H_5$ 	H	OH	CH_3	H
$n-C_3H_7$	H	$-CH_2-CH_2-COOH$	H	OH	CH_3	H
$n-C_3H_7$	H	$-CH_2-CH_2-COOC_2H_5$	H	OH	CH_3	H

A




R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₄ H ₉	CH ₃	CH ₃	CH ₃	H	OH	CH ₃	H
n-C ₄ H ₉	CH ₃	CH ₃	C ₂ H ₅	H	OH	CH ₃	H
n-C ₄ H ₉	C ₂ H ₅	C ₂ H ₅	C ₂ H ₅	H	OH	CH ₃	H
n-C ₄ H ₉	n-C ₃ H ₇	n-C ₃ H ₇	n-C ₃ H ₇	H	OH	CH ₃	H
n-C ₄ H ₉	n-C ₄ H ₉	n-C ₄ H ₉	n-C ₄ H ₉	H	OH	CH ₃	H
n-C ₄ H ₉	H	H	CH ₂ -COOH	H	OH	CH ₃	H
n-C ₄ H ₉	H	H	CH ₂ -COOC ₂ H ₅	H	OH	CH ₃	H
n-C ₄ H ₉	H	H	CH ₃ -CH-COOH 	H	OH	CH ₃	H
n-C ₄ H ₉	H	H	CH ₃ -CH-COOC ₂ H ₅ 	H	OH	CH ₃	H
n-C ₄ H ₉	H	H	-CH ₂ -CH ₂ -COOH	H	OH	CH ₃	H
n-C ₄ H ₉	H	H	-CH ₂ -CH ₂ -COOC ₂ H ₅	H	OH	CH ₃	H

R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₄ H ₉	H	$\left\{ \begin{array}{l} \text{---} \\ \text{---} \\ \text{---} \\ \text{---} \\ \text{---} \\ \text{---} \\ \text{---} \\ \text{---} \end{array} \right. \text{---} (\text{CH}_2)_4 \text{---} \text{CH} \begin{array}{l} \text{---} \text{COOH} \\ \text{---} \text{NH}_2 \end{array}$	H	OH	CH ₃	H
n-C ₄ H ₉			H	OH	CH ₃	H
n-C ₄ H ₉			H	OH	CH ₃	H
n-C ₄ H ₉			H	OH	CH ₃	H
n-C ₄ H ₉			H	OH	CH ₃	H
n-C ₄ H ₉			H	OH	CH ₃	H
n-C ₄ H ₉			H	OH	CH ₃	H
n-C ₄ H ₉			H	OH	CH ₃	H

POOR QUALITY




T A B L A I B.
R₁, R₂ R₃ R₄ R₅ R₆ R₇ R₈

R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
CH ₃	H	H	H	OH	CH ₃	H
CH ₃	H	CH ₃	H	OH	CH ₃	H
CH ₃	H	C ₂ H ₅	H	OH	CH ₃	H
CH ₃	H	n-C ₃ H ₇	H	OH	CH ₃	H
CH ₃	H	n-C ₄ H ₉	H	OH	CH ₃	H
CH ₃	H	i-C ₃ H ₇	H	OH	CH ₃	H
CH ₃	H	i-C ₄ H ₉	H	OH	CH ₃	H
CH ₃	H	n-C ₅ H ₁₁	H	OH	CH ₃	H
CH ₃	H	n-C ₆ H ₁₃	H	OH	CH ₃	H
CH ₃	H	C ₂ H ₄ OH	H	OH	CH ₃	H
CH ₃	H	-CH ₂ -CH(OH)-CH ₃	H	OH	CH ₃	H

R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
CH ₃	H	-CH ₂ -CH ₂ -CH ₂ OH	H	OH	CH ₃	H
CH ₃	H	-CH ₂ -CH ₂ -N(CH ₃) ₂	H	OH	CH ₃	H
CH ₃	H	-CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	H	OH	CH ₃	H
CH ₃	H	-CH ₂ -CH ₂ -N(C ₄ H ₉) ₂	H	OH	CH ₃	H
CH ₃	H	-CH ₂ -CH ₂ -CH ₂ -N(CH ₃) ₂	H	OH	CH ₃	H
CH ₃	H	-CH ₂ -CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	H	OH	CH ₃	H
CH ₃	H	-CH ₂ -CON(CH ₃) ₂	H	OH	CH ₃	H
CH ₃	H	-CH ₂ -CH ₂ -CON(CH ₃) ₂	H	OH	CH ₃	H
CH ₃	H	-CH ₂ -CON(C ₂ H ₅) ₂	H	OH	CH ₃	H
CH ₃	H	-CH ₂ -C ₆ H ₅	H	OH	CH ₃	H
CH ₃	H	-CH ₂ -CH ₂ -C ₆ H ₅	H	OH	CH ₃	H
CH ₃	H	-CH ₂ -CH ₂ -N 	H	OH	CH ₃	H




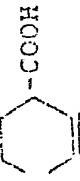
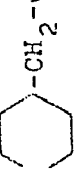
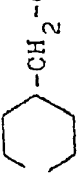
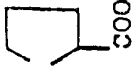
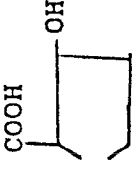
1 2 1

**POOR
QUALITY**

R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
CH ₃	H	-CH ₂ -CH ₂ -N 	H	OH	CH ₃	H
CH ₃	H	-CH ₂ -CH ₂ -N 	H	OH	CH ₃	H
CH ₃	H	-CH ₂ -CH ₂ -N  -CH ₃	H	OH	CH ₃	H
CH ₃	n-C ₅ H ₁₁	n-C ₅ H ₁₁	H	OH	CH ₃	H
CH ₃	n-C ₆ H ₁₃	n-C ₆ H ₁₃	H	OH	CH ₃	H
CH ₃	i-C ₃ H ₇	i-C ₃ H ₇	H	OH	CH ₃	H
CH ₃	i-C ₄ H ₉	i-C ₄ H ₉	H	OH	CH ₃	H
CH ₃	C ₂ H ₄ OH	C ₂ H ₄ OH	H	OH	CH ₃	H
CH ₃	-CH ₂ -CH-CH ₃ OH	-CH ₂ -CH-CH ₃ OH	H	OH	CH ₃	H
CH ₃	-CH ₃	C ₂ H ₄ OH	H	OH	CH ₃	H
CH ₃	-CH ₂ -CH ₂ -CH ₂ OH	-CH ₂ -CH ₂ -CH ₂ OH	H	OH	CH ₃	H

1 2 1


**POOR
QUALITY**


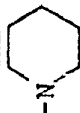
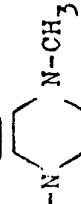
R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
CH ₃	-CH ₂ -C ₆ H ₅	-CH ₂ -C ₆ H ₅	H	OH	CH ₃	H
CH ₃	-CH ₂ -CH ₂ -C ₆ H ₅	-CH ₂ -CH ₂ -C ₆ H ₅	H	OH	CH ₃	H
CH ₃	H		H	OH	CH ₃	H
CH ₃	H		H	OH	CH ₃	H
CH ₃	H		H	OH	CH ₃	H
CH ₃		-COOH	H	OH	CH ₃	H
CH ₃		-CH ₂ -COOH	H	OH	CH ₃	H
CH ₃		-CH ₂ -CH ₂ -COOH	H	OH	CH ₃	H
CH ₃		COOH	H	OH	CH ₃	H
CH ₃		COOH, OH	H	OH	CH ₃	H




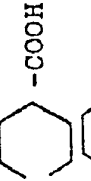
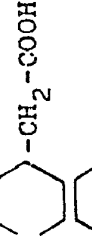
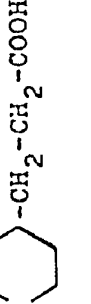


POOR QUALITY

R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
C_2H_5	H	H	H	OH	CH_3	H
C_2H_5	H	CH_3	H	OH	CH_3	H
C_2H_5	H	C_2H_5	H	OH	CH_3	
C_2H_5	H	$n-C_3H_7$	H	OH	CH_3	
C_2H_5	H	$n-C_4H_9$	H	OH	CH_3	
C_2H_5	H	$i-C_3H_7$	H	OH	CH_3	
C_2H_5	H	$i-C_4H_9$	H	OH	CH_3	
C_2H_5	H	$n-C_5H_{11}$	H	OH	CH_3	H
C_2H_5	H	$n-C_6H_{13}$	H	OH	CH_3	H
C_2H_5	H	C_2H_4OH	H	OH	CH_3	H
C_2H_5	H	$-CH_2-\underset{OH}{\overset{ }{CH}}-CH_3$	H	OH	CH_3	H


1
25
1

R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
C_2H_5	H	$-CH_2-CH_2-CH_2OH$	H	OH	CH_3	H
C_2H_5	H	$-CH_2-CH_2-N(CH_3)_2$	H	OH	CH_3	H
C_2H_5	H	$-CH_2-CH_2-N(C_2H_5)_2$	H	OH	CH_3	H
C_2H_5	H	$-CH_2-CH_2-N(C_4H_9)_2$	H	OH	CH_3	H
C_2H_5	F	$-CH_2-CH_2-CH_2-N(CH_3)_2$	H	OH	CH_3	H
C_2H_5	H	$-CH_2-CH_2-CH_2-N(C_2H_5)_2$	H	OH	CH_3	H
C_2H_5	H	$-CH_2-CON(CH_3)_2$	H	OH	CH_3	F
C_2H_5	H	$-CH_2-CH_2-CON(CH_3)_2$	H	OH	CH_3	F
C_2H_5	H	$-CH_2-CON(C_2H_5)_2$	H	OH	CH_3	H
C_2H_5	H	$-CH_2-C_6H_5$	H	OH	CH_3	H
C_2H_5	H	$-CH_2-CH_2-C_6H_5$	H	OH	CH_3	H
C_2H_5	H	$-CH_2-CH_2-N$ 	H	OH	CH_3	H



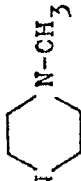
R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
C_2H_5	H	$-CH_2-CH_2-N$ 	H	OH	CH_3	H
C_2H_5	H	$-CH_2-CH_2-N$ 	H	OH	CH_3	H
C_2H_5	H	$-CH_2-CH_2-N-CH_3$ 	H	OH	CH_3	H
C_2H_5	$n-C_5H_{11}$	$n-C_5H_{11}$	H	OH	CH_3	H
C_2H_5	$n-C_6H_{13}$	$n-C_6H_{13}$	H	OH	CH_3	H
C_2H_5	$i-C_3H_7$	$i-C_3H_7$	H	OH	CH_3	H
C_2H_5	$i-C_4H_9$	$i-C_4H_9$	H	OH	CH_3	H
C_2H_5	C_2H_4OH	C_2H_4OH	H	OH	CH_3	H
C_2H_5	$-CH_2-\underset{OH}{\underset{ }{CH}}-CH_3$	$-CH_2-\underset{OH}{\underset{ }{CH}}-CH_3$	H	OH	CH_3	H
C_2H_5	$-CH_3$	C_2H_4OH	H	OH	CH_3	H
C_2H_5	$-CH_2-CH_2-CH_2OH$	$-CH_2-CH_2-CH_2OH$	H	OH	CH_3	H




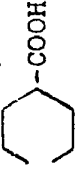



R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
C ₂ H ₅	-CH ₂ -C ₆ H ₅	-CH ₂ -C ₆ H ₅	H	OH	CH ₃	H
C ₂ H ₅	-CH ₂ -CH ₂ -C ₆ H ₅	-CH ₂ -CH ₂ -C ₆ H ₅	H	OH	CH ₃	H
C ₂ H ₅	H		H	OH	CH ₃	H
C ₂ H ₅	H		H	OH	CH ₃	H
C ₂ H ₅	H		H	OH	CH ₃	H
C ₂ H ₅			H	OH	CH ₃	H
C ₂ H ₅			H	OH	CH ₃	H
C ₂ H ₅			H	OH	CH ₃	H
C ₂ H ₅			H	OH	CH ₃	H
C ₂ H ₅			H	OH	CH ₃	H

R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_3H_7$	H	H	H	OH	CH_3	H
$n-C_3H_7$	H	CH_3	H	OH	CH_3	H
$n-C_3H_7$	H	C_2H_5	H	OH	CH_3	H
$n-C_3H_7$	H	$n-C_3H_7$	H	OH	CH_3	H
$n-C_3H_7$	H	$n-C_4H_9$	H	OH	CH_3	H
$n-C_3H_7$	H	$i-C_3H_7$	H	OH	CH_3	H
$n-C_3H_7$	H	$i-C_4H_9$	H	OH	CH_3	H
$n-C_3H_7$	H	$n-C_5H_{11}$	H	OH	CH_3	H
$n-C_3H_7$	H	$n-C_6H_{13}$	H	OH	CH_3	H
$n-C_3H_7$	H	C_2H_4OH	H	OH	CH_3	H
$n-C_3H_7$	H	$-CH_2-\underset{\substack{ \\ OH}}{CH}-CH_3$	H	OH	CH_3	H


R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_3H_7$	H	$-CH_2-CH_2-CH_2-OH$	H	OH	CH_3	H
$n-C_3H_7$	H	$-CH_2-CH_2-N(CH_3)_2$	H	OH	CH_3	H
$n-C_3H_7$	H	$-CH_2-CH_2-N(C_2H_5)_2$	H	OH	CH_3	H
$n-C_3H_7$	H	$-CH_2-CH_2-N(C_4H_9)_2$	H	OH	CH_3	H
$n-C_3H_7$	H	$-CH_2-CH_2-CH_2-N(CH_3)_2$	H	OH	CH_3	F
$n-C_3H_7$	H	$-CH_2-CH_2-CH_2-N(C_2H_5)_2$	H	OH	CH_3	F
$n-C_3H_7$	H	$-CH_2-CON(CH_3)_2$	H	OH	CH_3	F
$n-C_3H_7$	H	$-CH_2-CH_2-CON(CH_3)_2$	H	OH	CH_3	F
$n-C_3H_7$	H	$-CH_2-CON(C_2H_5)_2$	H	OH	CH_3	H
$n-C_3H_7$	H	$-CH_2-C_6H_5$	H	OH	CH_3	H
$n-C_3H_7$	H	$-CH_2-CH_2-C_6H_5$	H	OH	CH_3	H
$n-C_3H_7$	H	$-CH_2-CH_2-N$ 	H	OH	CH_3	H



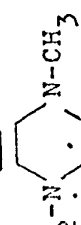
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R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₃ H ₇	H	-CH ₂ -CH ₂ -N 	H	OH	CH ₃	H
n-C ₃ H ₇	H	-CH ₂ -CH ₂ -N 	H	OH	CH ₃	H
n-C ₃ H ₇	H	-CH ₂ -CH ₂ -N  -CH ₃	H	OH	CH ₃	H
n-C ₃ H ₇	n-C ₅ H ₁₁	n-C ₅ H ₁₁	H	OH	CH ₃	H
n-C ₃ H ₇	n-C ₆ H ₁₃	n-C ₆ H ₁₃	H	OH	CH ₃	H
n-C ₃ H ₇	i-C ₃ H ₇	i-C ₃ H ₇	H	OH	CH ₃	H
n-C ₃ H ₇	i-C ₄ H ₉	i-C ₄ H ₉	H	OH	CH ₃	H
n-C ₃ H ₇	C ₂ H ₄ OH	C ₂ H ₄ OH	H	OH	CH ₃	H
n-C ₃ H ₇	-CH ₂ -CH-CH ₃ OH	-CH ₂ -CH-CH ₃ OH	H	OH	CH ₃	H
n-C ₃ H ₇	-CH ₃	C ₂ H ₄ OH	H	OH	CH ₃	H
n-C ₃ H ₇	-CH ₂ -CH ₂ -CH ₂ -CH ₂ OH	-CH ₂ -CH ₂ -CH ₂ -CH ₂ OH	H	OH	CH ₃	H




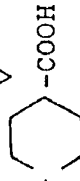
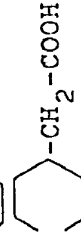
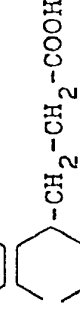


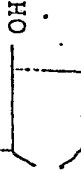
R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₃ H ₇	-CH ₂ -C ₆ H ₅	-CH ₂ -C ₆ H ₅	H	OH	CH ₃	H
n-C ₃ H ₇	-CH ₂ -CH ₂ -C ₆ H ₅	-CH ₂ -CH ₂ -C ₆ H ₅	H	OH	CH ₃	H
n-C ₃ H ₇	H		H	OH	CH ₃	H
n-C ₃ H ₇	H		H	OH	CH ₃	H
n-C ₃ H ₇	H		H	OH	CH ₃	H
n-C ₃ H ₇		-COOH	H	OH	CH ₃	H
n-C ₃ H ₇		-CH ₂ -COOH	H	OH	CH ₃	H
n-C ₃ H ₇		-CH ₂ -CH ₂ -COOH	H	OH	CH ₃	H
n-C ₃ H ₇		-CH ₂ -CH ₂ -COOH	H	OH	CH ₃	H
n-C ₃ H ₇			H	OH	CH ₃	H
n-C ₃ H ₇			H	OH	CH ₃	H

R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_4H_9$	H	H	H	OH	CH_3	H
$n-C_4H_9$	H	CH_3	H	OH	CH_3	H
$n-C_4H_9$	H	C_2H_5	H	OH	CH_3	H
$n-C_4H_9$	H	$n-C_3H_7$	H	OH	CH_3	H
$n-C_4H_9$	H	$n-C_4H_9$	H	OH	CH_3	H
$n-C_4H_9$	H	$i-C_3H_7$	H	OH	CH_3	H
$n-C_4H_9$	H	$i-C_4H_9$	H	OH	CH_3	H
$n-C_4H_9$	H	$n-C_5H_{11}$	H	OH	CH_3	H
$n-C_4H_9$	H	$n-C_6H_{13}$	H	OH	CH_3	H
$n-C_4H_9$	H	C_2H_4OH	H	OH	CH_3	H
$n-C_4H_9$	H	$-CH_2-\underset{OH}{\underset{ }{CH}}-CH_3$	H	OH	CH_3	H


R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_4H_9$	H	$-CH_2-CH_2-CH_2-OH$	H	OH	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-CH_2-N(CH_3)_2$	H	OH	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-CH_2-N(C_2H_5)_2$	H	OH	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-CH_2-N(C_4H_9)_2$	H	OH	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-CH_2-N(CH_3)_2$	H	OH	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-CH_2-N(C_2H_5)_2$	H	OH	CH_3	H
$n-C_4H_9$	H	$-CH_2-CON(CH_3)_2$	H	OH	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-CON(CH_3)_2$	H	OH	CH_3	H
$n-C_4H_9$	H	$-CH_2-CON(C_2H_5)_2$	H	OH	CH_3	H
$n-C_4H_9$	H	$-CH_2-C_6H_5$	H	OH	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-C_6H_5$	H	OH	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-N$ 	H	OH	CH_3	H

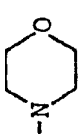

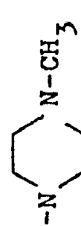
R_2, R_3	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_4H_9$	H	$-CH_2-CH_2-N$ 	H	OH	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-N$ 	H	OH	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-N$ 	H	OH	CH_3	H
$n-C_4H_9$	$n-C_5H_{11}$	$n-C_5H_{11}$	H	OH	CH_3	H
$n-C_4H_9$	$n-C_6H_{13}$	$n-C_6H_{13}$	H	OH	CH_3	H
$n-C_4H_9$	$i-C_3H_7$	$i-C_3H_7$	H	OH	CH_3	H
$n-C_4H_9$	$i-C_4H_9$	$i-C_4H_9$	H	OH	CH_3	H
$n-C_4H_9$	C_2H_4OH	C_2H_4OH	H	OH	CH_3	H
$n-C_4H_9$	$-CH_2-\underset{OH}{\underset{ }{CH}}-CH_3$	$-CH_2-\underset{OH}{\underset{ }{CH}}-CH_3$	H	OH	CH_3	H
$n-C_4H_9$	$-CH_3$	C_2H_4OH	H	OH	CH_3	H
$n-C_4H_9$	$-CH_2-CH_2-CH_2OH$	$-CH_2-CH_2-CH_2OH$	H	OH	CH_3	H



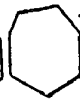
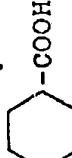
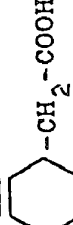
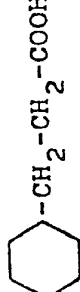
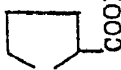
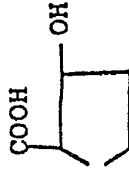
1
5
1

R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₄ H ₉	-CH ₂ -C ₆ H ₅	-CH ₂ -C ₆ H ₅	H	OH	CH ₃	H
n-C ₄ H ₉	-CH ₂ -CH ₂ -C ₆ H ₅	-CH ₂ -CH ₂ -C ₆ H ₅	H	OH	CH ₃	H
n-C ₄ H ₉	H		H	OH	CH ₃	H
n-C ₄ H ₉	H		H	OH	CH ₃	H
n-C ₄ H ₉	H		H	OH	CH ₃	H
n-C ₄ H ₉		-COOH	H	OH	CH ₃	H
n-C ₄ H ₉		-CH ₂ -COOH	H	OH	CH ₃	H
n-C ₄ H ₉		-CH ₂ -CH ₂ -COOH	H	OH	CH ₃	H
n-C ₄ H ₉		COOH	H	OH	CH ₃	H
n-C ₄ H ₉		COOH	H	OH	CH ₃	H
n-C ₄ H ₉		OH	H	OH	CH ₃	H


R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
$-(\text{CH}_2)_2^-$	H	H	H	H	OH	CH ₃	H
$-(\text{CH}_2)_2^-$	H	H	CH ₃	H	OH	CH ₃	H
$-(\text{CH}_2)_2^-$	H	H	C ₂ H ₅	H	OH	CH ₃	H
$-(\text{CH}_2)_2^-$	H	H	n-C ₃ H ₇	H	OH	CH ₃	H
$-(\text{CH}_2)_2^-$	H	H	n-C ₄ H ₉	H	OH	CH ₃	H
$-(\text{CH}_2)_2^-$	H	H	i-C ₃ H ₇	H	OH	CH ₃	H
$-(\text{CH}_2)_2^-$	H	H	i-C ₄ H ₉	H	OH	CH ₃	H
$-(\text{CH}_2)_2^-$	H	H	n-C ₅ H ₁₁	H	OH	CH ₃	H
$-(\text{CH}_2)_2^-$	H	H	n-C ₆ H ₁₃	H	OH	CH ₃	H
$-(\text{CH}_2)_2^-$	H	H	C ₂ H ₄ OH	H	OH	CH ₃	H
$-(\text{CH}_2)_2^-$	H	H	$-\text{CH}_2-\underset{\text{OH}}{\text{CH}}-\text{CH}_3$	H	OH	CH ₃	H



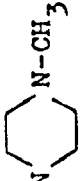
R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₂ -		H	-CH ₂ -CH ₂ -CH ₂ -OH	H	OH	CH ₃	H
-(CH ₂) ₂ -		H	-CH ₂ -CH ₂ -N(CH ₃) ₂	H	OH	CH ₃	H
-(CH ₂) ₂ -		H	-CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	H	OH	CH ₃	H
-(CH ₂) ₂ -		H	-CH ₂ -CH ₂ -N(C ₄ H ₉) ₂	H	OH	CH ₃	H
-(CH ₂) ₂ -		H	-CH ₂ -CH ₂ -CH ₂ -N(CH ₃) ₂	H	OH	CH ₃	H
-(CH ₂) ₂ -		H	-CH ₂ -CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	H	OH	CH ₃	H
-(CH ₂) ₂ -		H	-CH ₂ -CON(CH ₃) ₂	H	OH	CH ₃	H
-(CH ₂) ₂ -		H	-CH ₂ -CH ₂ -CON(CH ₃) ₂	H	OH	CH ₃	H
-(CH ₂) ₂ -		H	-CH ₂ -CON(C ₂ H ₅) ₂	H	OH	CH ₃	H
-(CH ₂) ₂ -		H	-CH ₂ -C ₆ H ₅	H	OH	CH ₃	H
-(CH ₂) ₂ -		H	-CH ₂ -CH ₂ -C ₆ H ₅	H	OH	CH ₃	H
-(CH ₂) ₂ -		H	-CH ₂ -CH ₂ -N 	H	OH	CH ₃	H



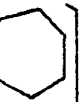
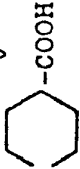
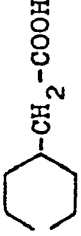
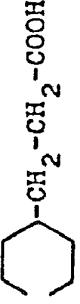
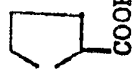
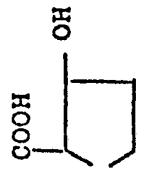
R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₂ -	H	-CH ₂ -CH ₂ -N 	H	OH	CH ₃	H
-(CH ₂) ₂ -	H	-CH ₂ -CH ₂ -N 	H	OH	CH ₃	H
-(CH ₂) ₂ -	H	-CH ₂ -CH ₂ -N 	H	OH	CH ₃	H
-(CH ₂) ₂ -	n-C ₅ H ₁₁	n-C ₅ H ₁₁	H	OH	CH ₃	H
-(CH ₂) ₂ -	n-C ₆ H ₁₃	n-C ₆ H ₁₃	H	OH	CH ₃	H
-(CH ₂) ₂ -	i-C ₃ H ₇	i-C ₃ H ₇	H	OH	CH ₃	H
-(CH ₂) ₂ -	i-C ₄ H ₉	i-C ₄ H ₉	H	OH	CH ₃	H
-(CH ₂) ₂ -	C ₂ H ₄ OH	C ₂ H ₄ OH	H	OH	CH ₃	H
-(CH ₂) ₂ -	-CH ₂ -CH-CH ₃ OH	-CH ₂ -CH-CH ₃ OH	H	OH	CH ₃	H
-(CH ₂) ₂ -	-CH ₃	C ₂ H ₄ OH	H	OH	CH ₃	H
-(CH ₂) ₂ -	-CH ₂ -CH ₂ -CH ₂ OH	-CH ₂ -CH ₂ -CH ₂ OH	H	OH	CH ₃	H

R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₂ -		-CH ₂ -C ₆ H ₅	-CH ₂ -C ₆ H ₅	H	OH	CH ₃	H
-(CH ₂) ₂ -		-CH ₂ -CH ₂ -C ₆ H ₅	-CH ₂ -CH ₂ -C ₆ H ₅	H	OH	CH ₃	H
-(CH ₂) ₂ -		H		H	OH	CH ₃	H
-(CH ₂) ₂ -		H		H	OH	CH ₃	H
-(CH ₂) ₂ -		H		H	OH	CH ₃	H
-(CH ₂) ₂ -				H	OH	CH ₃	H
-(CH ₂) ₂ -				H	OH	CH ₃	H
-(CH ₂) ₂ -				H	OH	CH ₃	H
-(CH ₂) ₂ -				H	OH	CH ₃	H
-(CH ₂) ₂ -				H	OH	CH ₃	H
-(CH ₂) ₂ -				H	OH	CH ₃	H

R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₃ -	H	H	H	H	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	CH ₃	H	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	C ₂ H ₅	H	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	n-C ₃ H ₇	H	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	n-C ₄ H ₉	H	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	i-C ₃ H ₇	H	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	i-C ₄ H ₉	H	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	n-C ₅ H ₁₁	H	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	n-C ₆ H ₁₃	H	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	C ₂ H ₄ OH	H	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	-CH ₂ -CH-CH ₃ OH	H	OH	CH ₃	H

R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -CH ₂ OH	H	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -N(CH ₃) ₂	H	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	H	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -N(C ₄ H ₉) ₂	H	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -CH ₂ -N(CH ₃) ₂	H	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	H	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	-CH ₂ -CON(CH ₃) ₂	H	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -CON(CH ₃) ₂	H	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	-CH ₂ -CON(C ₂ H ₅) ₂	H	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	-CH ₂ -C ₆ H ₅	H	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -C ₆ H ₅	H	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -N 	H	OH	CH ₃	H





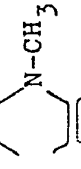
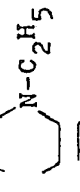
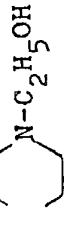
R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
$-(CH_2)_3-$	$-(CH_2)_3-$	H	$-CH_2-CH_2-N$ 	H	OH	CH_3	H
$-(CH_2)_3-$	$-(CH_2)_3-$	H	$-CH_2-CH_2-N$ 	H	OH	CH_3	H
$-(CH_2)_3-$	$-(CH_2)_3-$	H	$-CH_2-CH_2-N$ 	H	OH	CH_3	H
$-(CH_2)_3-$	$-(CH_2)_3-$	$n-C_5H_{11}$	$n-C_5H_{11}$	H	OH	CH_3	H
$-(CH_2)_3-$	$-(CH_2)_3-$	$n-C_6H_{13}$	$n-C_6H_{13}$	H	OH	CH_3	H
$-(CH_2)_3-$	$-(CH_2)_3-$	$i-C_3H_7$	$i-C_3H_7$	H	OH	CH_3	H
$-(CH_2)_3-$	$-(CH_2)_3-$	$i-C_4H_9$	$i-C_4H_9$	H	OH	CH_3	H
$-(CH_2)_3-$	$-(CH_2)_3-$	C_2H_4OH	C_2H_4OH	H	OH	CH_3	H
$-(CH_2)_3-$	$-(CH_2)_3-$	$-CH_2-\underset{OH}{\underset{ }{CH}}-CH_3$	$-CH_2-\underset{OH}{\underset{ }{CH}}-CH_3$	H	OH	CH_3	H
$-(CH_2)_3-$	$-(CH_2)_3-$	$-CH_3$	C_2H_4OH	H	OH	CH_3	H
$-(CH_2)_3-$	$-(CH_2)_3-$	$-CH_2-CH_2-CH_2OH$	$-CH_2-CH_2-CH_2OH$	H	OH	CH_3	H

R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₃ -		-CH ₂ -C ₆ H ₅	-CH ₂ -C ₆ H ₅	H	OH	CH ₃	H
-(CH ₂) ₃ -		-CH ₂ -CH ₂ -C ₆ H ₅	-CH ₂ -CH ₂ -C ₆ H ₅	H	OH	CH ₃	H
-(CH ₂) ₃ -		H		H	OH	CH ₃	H
-(CH ₂) ₃ -		H		H	OH	CH ₃	H
-(CH ₂) ₃ -		H		H	OH	CH ₃	H
-(CH ₂) ₃ -				H	OH	CH ₃	H
-(CH ₂) ₃ -				H	OH	CH ₃	H
-(CH ₂) ₃ -				H	OH	CH ₃	H
-(CH ₂) ₃ -				H	OH	CH ₃	H
-(CH ₂) ₃ -				H	OH	CH ₃	H

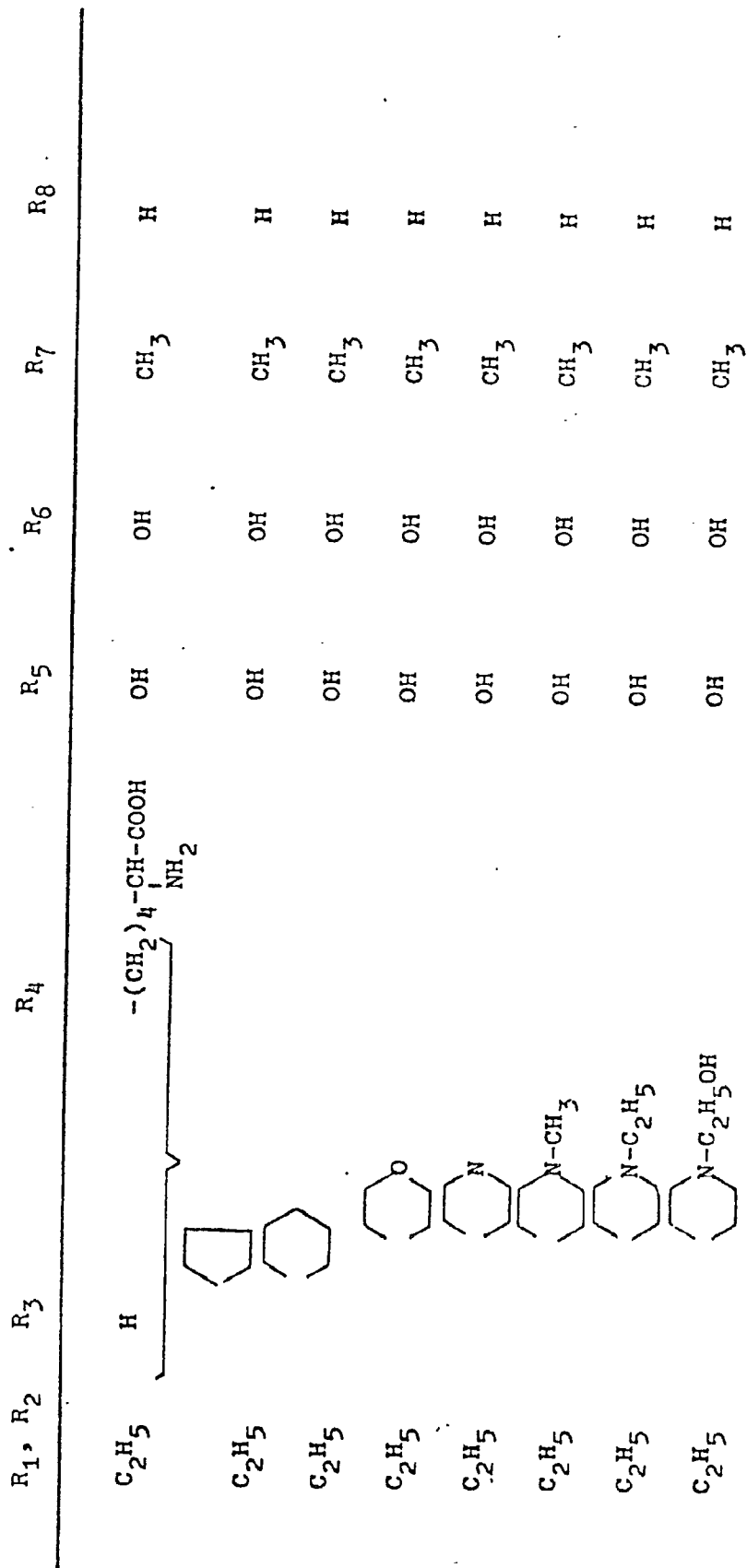
! 4 !

T A B E L L E II A.





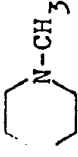

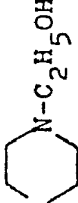
R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
CH_3	CH_3	CH_3	OH	OH	CH_3	H
CH_3	CH_3	C_2H_5	OH	OH	CH_3	H
CH_3	C_2H_5	C_2H_5	OH	OH	CH_3	H
CH_3	$n-C_3H_7$	$n-C_3H_7$	OH	OH	CH_3	H
CH_3	$n-C_4H_9$	$n-C_4H_9$	OH	OH	CH_3	H
CH_3	H	CH_2-COOH	OH	OH	CH_3	H
CH_3	H	$CH_2-COOC_2H_5$	OH	OH	CH_3	H
CH_3	H	$CH_3-CH-COOH$ 	OH	OH	CH_3	H
CH_3	H	$CH_3-CH-COOC_2H_5$ 	OH	OH	CH_3	H
CH_3	H	$-CH_2-CH_2-COOH$	OH	OH	CH_3	H
CH_3	H	$-CH_2-CH_2-COOC_2H_5$	OH	OH	CH_3	H

R ₁ , R ₂ , R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
CH ₃	$-(CH_2)_4-\underset{\text{NH}_2}{\underset{ }{\text{CH}}}-\text{COOH}$	OH	OH	CH ₃	H
					
CH ₃		OH	OH	CH ₃	H
CH ₃		OH	OH	CH ₃	H
CH ₃		OH	OH	CH ₃	H
CH ₃		OH	OH	CH ₃	H
CH ₃		OH	OH	CH ₃	H
CH ₃		OH	OH	CH ₃	H
CH ₃		OH	OH	CH ₃	H





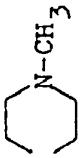
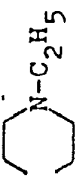
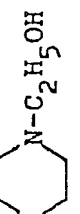







R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
C ₂ H ₅	C ₂ H ₅	CH ₃	CH ₃	OH	OH	CH ₃	H
C ₂ H ₅	C ₂ H ₅	CH ₃	C ₂ H ₅	OH	OH	CH ₃	H
C ₂ H ₅	C ₂ H ₅	C ₂ H ₅	C ₂ H ₅	OH	OH	CH ₃	H
C ₂ H ₅	C ₂ H ₅	n-C ₃ H ₇	n-C ₃ H ₇	OH	OH	CH ₃	H
C ₂ H ₅	C ₂ H ₅	n-C ₄ H ₉	n-C ₄ H ₉	OH	OH	CH ₃	H
C ₂ H ₅	C ₂ H ₅	H	CH ₂ -COOH	OH	OH	CH ₃	H
C ₂ H ₅	C ₂ H ₅	H	CH ₂ -COOC ₂ H ₅	OH	OH	CH ₃	H
C ₂ H ₅	C ₂ H ₅	H	CH ₃ -CH-COOH 	OH	OH	CH ₃	H
C ₂ H ₅	C ₂ H ₅	H	CH ₃ -CH-COOC ₂ H ₅ 	OH	OH	CH ₃	H
C ₂ H ₅	C ₂ H ₅	H	-CH ₂ -CH ₂ -COOH	OH	OH	CH ₃	H
C ₂ H ₅	C ₂ H ₅	H	-CH ₂ -CH ₂ -COOC ₂ H ₅	OH	OH	CH ₃	H



R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₃ H ₇	CH ₃	CH ₃	OH	OH	CH ₃	H
n-C ₃ H ₇	CH ₃	C ₂ H ₅	OH	OH	CH ₃	H
n-C ₃ H ₇	C ₂ H ₅	C ₂ H ₅	OH	OH	CH ₃	H
n-C ₃ H ₇	n-C ₃ H ₇	n-C ₃ H ₇	OH	OH	CH ₃	H
n-C ₃ H ₇	n-C ₄ H ₉	n-C ₄ H ₉	OH	OH	CH ₃	H
n-C ₃ H ₇	H	CH ₂ -COOH	OH	OH	CH ₃	H
n-C ₃ H ₇	H	CH ₂ -COOC ₂ H ₅	OH	OH	CH ₃	H
n-C ₃ H ₇	H	CH ₃ -CH-COOH	OH	OH	CH ₃	H
n-C ₃ H ₇	H	CH ₃ -CH-COOC ₂ H ₅	OH	OH	CH ₃	H
n-C ₃ H ₇	H	-CH ₂ -CH ₂ -COOH	OH	OH	CH ₃	H
n-C ₃ H ₇	H	-CH ₂ -CH ₂ -COOC ₂ H ₅	OH	OH	CH ₃	H


R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₃ H ₇	H	$-(\text{CH}_2)_4-\underset{\text{NH}_2}{\text{CH}}-\text{COOH}$	OH	OH	CH ₃	H
n-C ₃ H ₇			OH	OH	CH ₃	H
n-C ₃ H ₇			OH	OH	CH ₃	H
n-C ₃ H ₇			OH	OH	CH ₃	H
n-C ₃ H ₇			OH	OH	CH ₃	H
n-C ₃ H ₇			OH	OH	CH ₃	H
n-C ₃ H ₇			OH	OH	CH ₃	H
n-C ₃ H ₇			OH	OH	CH ₃	H


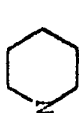
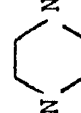
R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_4H_9$	CH_3	CH_3	OH	OH	CH_3	H
$n-C_4H_9$	CH_3	C_2H_5	OH	OH	CH_3	H
$n-C_4H_9$	C_2H_5	C_2H_5	OH	OH	CH_3	H
$n-C_4H_9$	$n-C_3H_7$	$n-C_3H_7$	OH	OH	CH_3	H
$n-C_4H_9$	$n-C_4H_9$	$n-C_4H_9$	OH	OH	CH_3	H
$n-C_4H_9$	H	CH_2-COOH	OH	OH	CH_3	H
$n-C_4H_9$	H	$CH_2-COOC_2H_5$	OH	OH	CH_3	H
$n-C_4H_9$	H	$CH_3-CH-COOH$	OH	OH	CH_3	H
$n-C_4H_9$	H	$CH_3-CH-COOC_2H_5$	OH	OH	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-COOH$	OH	OH	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-COOC_2H_5$	OH	OH	CH_3	H




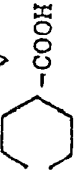

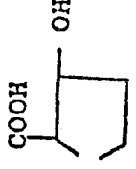
R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₄ H ₉	H	-(CH ₂) ₄ -CH-COOH NH ₂	OH	OH	CH ₃	H
n-C ₄ H ₉		     	OH	OH	CH ₃	H
n-C ₄ H ₉			OH	OH	CH ₃	H
n-C ₄ H ₉			OH	OH	CH ₃	H
n-C ₄ H ₉			OH	OH	CH ₃	H
n-C ₄ H ₉			OH	OH	CH ₃	H
n-C ₄ H ₉			OH	OH	CH ₃	H
n-C ₄ H ₉			OH	OH	CH ₃	H
n-C ₄ H ₉			OH	OH	CH ₃	H

T A B E L L E II B.


R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
CH_3	H	H	OH	OH	CH_3	H
CH_3	H	CH_3	OH	OH	CH_3	H
CH_3	H	C_2H_5	OH	OH	CH_3	H
CH_3	H	$n-C_3H_7$	OH	OH	CH_3	H
CH_3	H	$n-C_4H_9$	OH	OH	CH_3	H
CH_3	H	$i-C_3H_7$	OH	OH	CH_3	H
CH_3	H	$i-C_4H_9$	OH	OH	CH_3	H
CH_3	H	$n-C_5H_{11}$	OH	OH	CH_3	H
CH_3	H	$n-C_6H_{13}$	OH	OH	CH_3	H
CH_3	H	C_2H_4OH	OH	OH	CH_3	H
CH_3	H	$-CH_2-CH-CH_3$ OH	OH	OH	CH_3	H


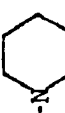
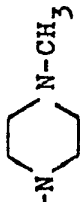
R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
CH ₃	H	-CH ₂ -CH ₂ -CH ₂ -OH	OH	OH	CH ₃	H
CH ₃	H	-CH ₂ -CH ₂ -N(CH ₃) ₂	OH	OH	CH ₃	H
CH ₃	H	-CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	OH	OH	CH ₃	H
CH ₃	H	-CH ₂ -CH ₂ -N(C ₄ H ₉) ₂	OH	OH	CH ₃	H
CH ₃	H	-CH ₂ -CH ₂ -CH ₂ -N(CH ₃) ₂	OH	OH	CH ₃	H
CH ₃	H	-CH ₂ -CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	OH	OH	CH ₃	H
CH ₃	H	-CH ₂ -CON(CH ₃) ₂	OH	OH	CH ₃	H
CH ₃	H	-CH ₂ -CH ₂ -CON(CH ₃) ₂	OH	OH	CH ₃	H
CH ₃	H	-CH ₂ -CON(C ₂ H ₅) ₂	OH	OH	CH ₃	H
CH ₃	H	-CH ₂ -C ₆ H ₅	OH	OH	CH ₃	H
CH ₃	H	-CH ₂ -CH ₂ -C ₆ H ₅	OH	OH	CH ₃	H
CH ₃	H	-CH ₂ -CH ₂ -N 	OH	OH	CH ₃	H

R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
CH ₃	H	-CH ₂ -CH ₂ -N 	OH	OH	CH ₃	H
CH ₃	H	-CH ₂ -CH ₂ -N 	OH	OH	CH ₃	H
CH ₃	H	-CH ₂ -CH ₂ -N  -CH ₃	OH	OH	CH ₃	H
CH ₃	n-C ₅ H ₁₁	n-C ₅ H ₁₁	OH	OH	CH ₃	H
CH ₃	n-C ₆ H ₁₃	n-C ₆ H ₁₃	OH	OH	CH ₃	H
CH ₃	i-C ₃ H ₇	i-C ₃ H ₇	OH	OH	CH ₃	H
CH ₃	i-C ₄ H ₉	i-C ₄ H ₉	OH	OH	CH ₃	H
CH ₃	C ₂ H ₄ OH	C ₂ H ₄ OH	OH	OH	CH ₃	H
CH ₃	-CH ₂ -CH-CH ₃ OH	-CH ₂ -CH-CH ₃ OH	OH	OH	CH ₃	H
CH ₃	-CH ₃	C ₂ H ₄ OH	OH	OH	CH ₃	H
CH ₃	-CH ₂ -CH ₂ -CH ₂ OH	-CH ₂ -CH ₂ -CH ₂ OH	OH	OH	CH ₃	H

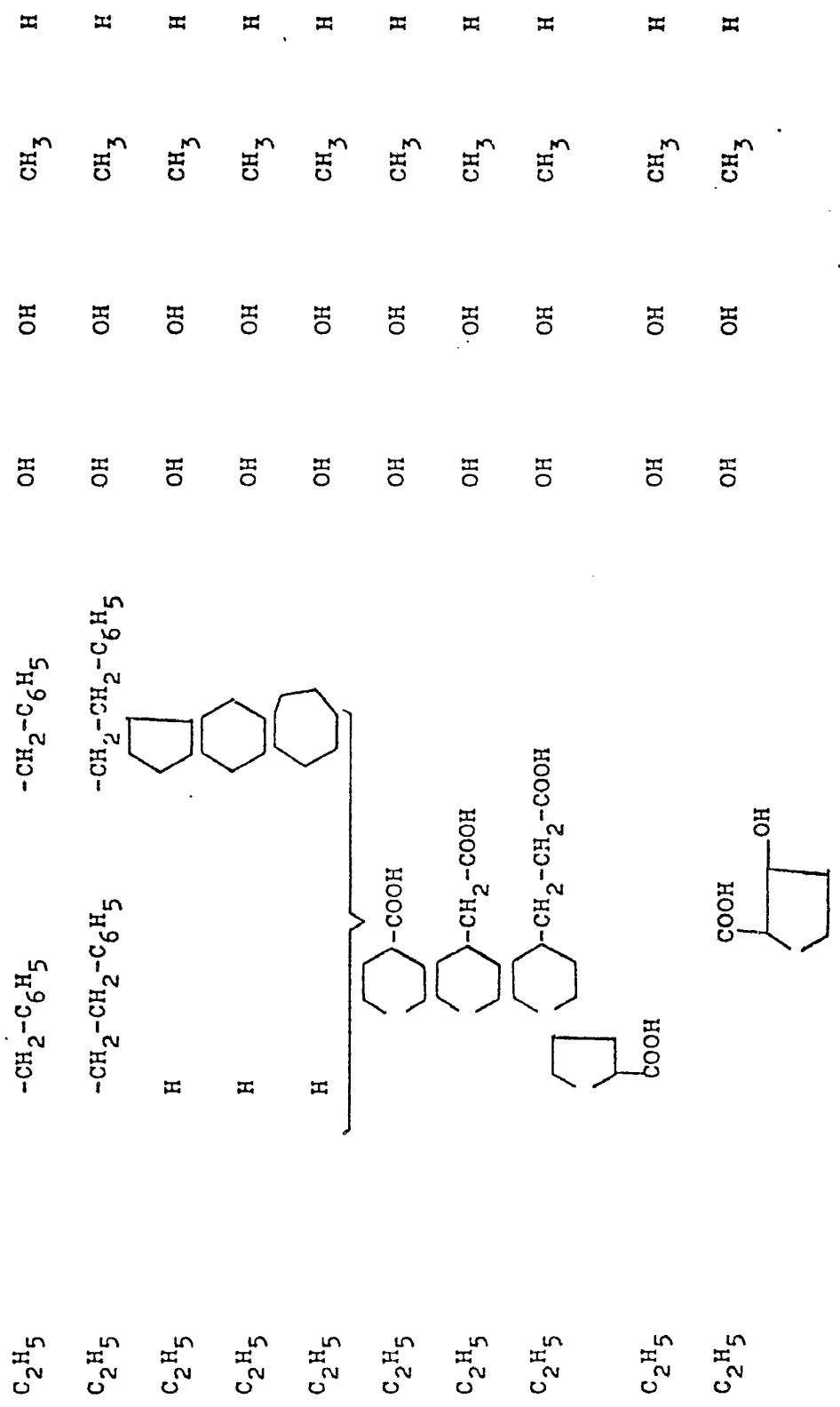
R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
CH ₃	-CH ₂ -C ₆ H ₅	-CH ₂ -C ₆ H ₅	OH	OH	CH ₃	H
CH ₃	-CH ₂ -CH ₂ -C ₆ H ₅	-CH ₂ -CH ₂ -C ₆ H ₅	OH	OH	CH ₃	H
CH ₃	H		OH	OH	CH ₃	H
CH ₃	H		OH	OH	CH ₃	H
CH ₃	H		OH	OH	CH ₃	H
CH ₃		-COOH	OH	OH	CH ₃	H
CH ₃		-CH ₂ -COOH	OH	OH	CH ₃	H
CH ₃		-CH ₂ -CH ₂ -COOH	OH	OH	CH ₃	H
CH ₃		-CH ₂ -CH ₂ -COOH	OH	OH	CH ₃	H
CH ₃			OH	OH	CH ₃	H
CH ₃			OH	OH	CH ₃	H

R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
C_2H_5	H	H	OH	OH	CH_3	H
C_2H_5	H	CH_3	OH	OH	CH_3	H
C_2H_5	H	C_2H_5	OH	OH	CH_3	H
C_2H_5	H	n- C_3H_7	OH	OH	CH_3	H
C_2H_5	H	n- C_4H_9	OH	OH	CH_3	H
C_2H_5	H	i- C_3H_7	OH	OH	CH_3	H
C_2H_5	H	i- C_4H_9	OH	OH	CH_3	H
C_2H_5	H	n- C_5H_{11}	OH	OH	CH_3	H
C_2H_5	H	n- C_6H_{13}	OH	OH	CH_3	H
C_2H_5	H	C_2H_4OH	OH	OH	CH_3	H
C_2H_5	H	$-CH_2-CH-CH_3$ OH	OH	OH	CH_3	H

R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
C ₂ H ₅	H	-CH ₂ -CH ₂ -CH ₂ OH	OH	OH	CH ₃	H
C ₂ H ₅	H	-CH ₂ -CH ₂ -N(CH ₃) ₂	OH	OH	CH ₃	H
C ₂ H ₅	H	-CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	OH	OH	CH ₃	H
C ₂ H ₅	H	-CH ₂ -CH ₂ -N(C ₄ H ₉) ₂	OH	OH	CH ₃	H
C ₂ H ₅	H	-CH ₂ -CH ₂ -CH ₂ -N(CH ₃) ₂	OH	OH	CH ₃	H
C ₂ H ₅	H	-CH ₂ -CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	OH	OH	CH ₃	H
C ₂ H ₅	H	-CH ₂ -CON(CH ₃) ₂	OH	OH	CH ₃	H
C ₂ H ₅	H	-CH ₂ -CH ₂ -CON(CH ₃) ₂	OH	OH	CH ₃	H
C ₂ H ₅	H	-CH ₂ -CON(C ₂ H ₅) ₂	OH	OH	CH ₃	H
C ₂ H ₅	H	-CH ₂ -C ₆ H ₅	OH	OH	CH ₃	H
C ₂ H ₅	H	-CH ₂ -CH ₂ -C ₆ H ₅	OH	OH	CH ₃	H
C ₂ H ₅	H	-CH ₂ -CH ₂ -N 	OH	OH	CH ₃	H


R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
C_2H_5	H		OH	OH	CH_3	H
C_2H_5	H		OH	OH	CH_3	H
C_2H_5	H		OH	OH	CH_3	H
C_2H_5	$n-C_5H_{11}$	$n-C_5H_{11}$	OH	OH	CH_3	H
C_2H_5	$n-C_6H_{13}$	$n-C_6H_{13}$	OH	OH	CH_3	H
C_2H_5	$i-C_3H_7$	$i-C_3H_7$	OH	OH	CH_3	H
C_2H_5	$i-C_4H_9$	$i-C_4H_9$	OH	OH	CH_3	H
C_2H_5	C_2H_4OH	C_2H_4OH	OH	OH	CH_3	H
C_2H_5	$-CH_2-\underset{\text{OH}}{\text{CH}}-\text{CH}_3$	$-CH_2-\underset{\text{OH}}{\text{CH}}-\text{CH}_3$	OH	OH	CH_3	H
C_2H_5	$-CH_3$	C_2H_4OH	OH	OH	CH_3	H
C_2H_5	$-CH_2-\text{CH}_2-\text{CH}_2\text{OH}$	$-CH_2-\text{CH}_2-\text{CH}_2\text{OH}$	OH	OH	CH_3	H

R₁, R₂ R₃ R₄ R₅ R₆ R₇ R₈

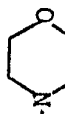
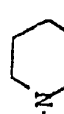
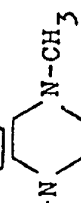





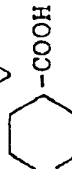
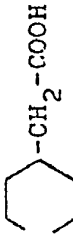
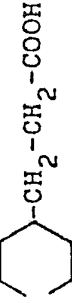

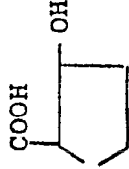
R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_3H_7$	H	H	OH	OH	CH_3	H
$n-C_3H_7$	H	CH_3	OH	OH	CH_3	H
$n-C_3H_7$	H	C_2H_5	OH	OH	CH_3	H
$n-C_3H_7$	H	$n-C_3H_7$	OH	OH	CH_3	H
$n-C_3H_7$	H	$n-C_4H_9$	OH	OH	CH_3	H
$n-C_3H_7$	H	$i-C_3H_7$	OH	OH	CH_3	H
$n-C_3H_7$	H	$i-C_4H_9$	OH	OH	CH_3	H
$n-C_3H_7$	H	$n-C_5H_{11}$	OH	OH	CH_3	H
$n-C_3H_7$	H	$n-C_6H_{13}$	OH	OH	CH_3	H
$n-C_3H_7$	H	C_2H_4OH	OH	OH	CH_3	H
$n-C_3H_7$	H	$-CH_2-\underset{OH}{\underset{ }{CH}}-CH_3$	OH	OH	CH_3	H

! 9 !


R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_3H_7$	H	$-CH_2-CH_2-CH_2OH$	OH	OH	CH_3	H
$n-C_3H_7$	H	$-CH_2-CH_2-N(CH_3)_2$	OH	OH	CH_3	H
$n-C_3H_7$	H	$-CH_2-CH_2-N(C_2H_5)_2$	OH	OH	CH_3	H
$n-C_3H_7$	H	$-CH_2-CH_2-N(C_4H_9)_2$	OH	OH	CH_3	H
$n-C_3H_7$	H	$-CH_2-CH_2-CH_2-N(CH_3)_2$	OH	OH	CH_3	H
$n-C_3H_7$	H	$-CH_2-CH_2-CH_2-N(C_2H_5)_2$	OH	OH	CH_3	H
$n-C_3H_7$	H	$-CH_2-CON(CH_3)_2$	OH	OH	CH_3	H
$n-C_3H_7$	H	$-CH_2-CH_2-CON(CH_3)_2$	OH	OH	CH_3	H
$n-C_3H_7$	H	$-CH_2-CON(C_2H_5)_2$	OH	OH	CH_3	H
$n-C_3H_7$	H	$-CH_2-C_6H_5$	OH	OH	CH_3	H
$n-C_3H_7$	H	$-CH_2-CH_2-C_6H_5$	OH	OH	CH_3	H
$n-C_3H_7$	H	$-CH_2-CH_2-N$ 	OH	OH	CH_3	H

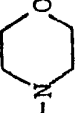
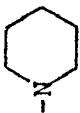
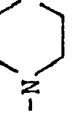
! 2 !




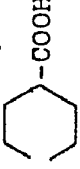

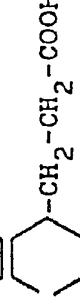

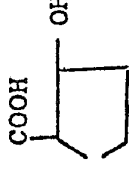

R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_3H_7$	H	$-CH_2-CH_2-N$ 	OH	OH	CH_3	H
$n-C_3H_7$	H	$-CH_2-CH_2-N$ 	OH	OH	CH_3	H
$n-C_3H_7$	H	$-CH_2-CH_2-N-CH_3$ 	OH	OH	CH_3	H
$n-C_3H_7$	$n-C_5H_{11}$	$n-C_5H_{11}$	OH	OH	CH_3	H
$n-C_3H_7$	$n-C_6H_{13}$	$n-C_6H_{13}$	OH	OH	CH_3	H
$n-C_3H_7$	$i-C_3H_7$	$i-C_3H_7$	OH	OH	CH_3	H
$n-C_3H_7$	$i-C_4H_9$	$i-C_4H_9$	OH	OH	CH_3	H
$n-C_3H_7$	C_2H_4OH	C_2H_4OH	OH	OH	CH_3	H
$n-C_3H_7$	$-CH_2-\underset{\substack{ \\ OH}}{CH}-CH_3$	$-CH_2-\underset{\substack{ \\ OH}}{CH}-CH_3$	OH	OH	CH_3	H
$n-C_3H_7$	$-CH_3$	C_2H_4OH	OH	OH	CH_3	H
$n-C_3H_7$	$-CH_2-CH_2-CH_2OH$	$-CH_2-CH_2-CH_2OH$	OH	OH	CH_3	H

R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₃ H ₇	-CH ₂ -C ₆ H ₅	-CH ₂ -C ₆ H ₅	OH	OH	CH ₃	H
n-C ₃ H ₇	-CH ₂ -CH ₂ -C ₆ H ₅	-CH ₂ -CH ₂ -C ₆ H ₅	OH	OH	CH ₃	H
n-C ₃ H ₇	H		OH	OH	CH ₃	H
n-C ₃ H ₇	H		OH	OH	CH ₃	H
n-C ₃ H ₇	H		OH	OH	CH ₃	H
n-C ₃ H ₇		-COOH	OH	OH	CH ₃	H
n-C ₃ H ₇		-CH ₂ -COOH	OH	OH	CH ₃	H
n-C ₃ H ₇		-CH ₂ -CH ₂ -COOH	OH	OH	CH ₃	H
n-C ₃ H ₇		COOH	OH	OH	CH ₃	H
n-C ₃ H ₇		COOH, OH	OH	OH	CH ₃	H


R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_4H_9$	H	H	OH	OH	CH_3	H
$n-C_4H_9$	H	CH_3	OH	OH	CH_3	H
$n-C_4H_9$	H	C_2H_5	OH	OH	CH_3	H
$n-C_4H_9$	H	$n-C_3H_7$	OH	OH	CH_3	H
$n-C_4H_9$	H	$n-C_4H_9$	OH	OH	CH_3	H
$n-C_4H_9$	H	$i-C_3H_7$	OH	OH	CH_3	H
$n-C_4H_9$	H	$i-C_4H_9$	OH	OH	CH_3	H
$n-C_4H_9$	H	$n-C_5H_{11}$	OH	OH	CH_3	H
$n-C_4H_9$	H	$n-C_6H_{13}$	OH	OH	CH_3	H
$n-C_4H_9$	H	C_2H_4OH	OH	OH	CH_3	H
$n-C_4H_9$	H	$-CH_2-\underset{\substack{ \\ OH}}{CH}-CH_3$	OH	OH	CH_3	H

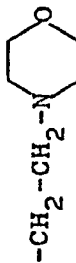
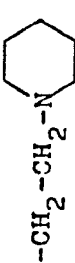
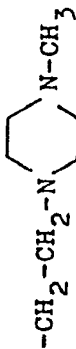
R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_4H_9$	H	$-CH_2-CH_2-CH_2OH$	OH	OH	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-N(CH_3)_2$	OH	OH	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-N(C_2H_5)_2$	OH	OH	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-N(C_4H_9)_2$	OH	OH	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-CH_2-N(CH_3)_2$	OH	OH	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-CH_2-N(C_2H_5)_2$	OH	OH	CH_3	H
$n-C_4H_9$	H	$-CH_2-CON(CH_3)_2$	OH	OH	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-CON(CH_3)_2$	OH	OH	CH_3	H
$n-C_4H_9$	H	$-CH_2-CON(C_2H_5)_2$	OH	OH	CH_3	H
$n-C_4H_9$	H	$-CH_2-C_6H_5$	OH	OH	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-C_6H_5$	OH	OH	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-N$ 	OH	OH	CH_3	H




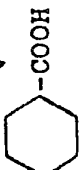
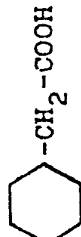
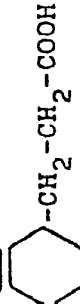
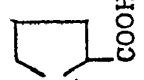
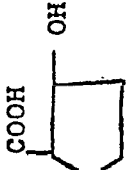
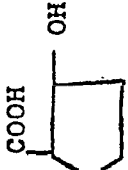
R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₄ H ₉	H	-CH ₂ -CH ₂ -N 	H	OH	CH ₃	H
n-C ₄ H ₉	H	-CH ₂ -CH ₂ -N 	OH	OH	CH ₃	H
n-C ₄ H ₉	H	-CH ₂ -CH ₂ -N  -CH ₃	OH	OH	CH ₃	H
n-C ₄ H ₉	n-C ₅ H ₁₁	n-C ₅ H ₁₁	OH	OH	CH ₃	H
n-C ₄ H ₉	n-C ₆ H ₁₃	n-C ₆ H ₁₃	OH	OH	CH ₃	H
n-C ₄ H ₉	i-C ₃ H ₇	i-C ₃ H ₇	OH	OH	CH ₃	H
n-C ₄ H ₉	i-C ₄ H ₉	i-C ₄ H ₉	OH	OH	CH ₃	H
n-C ₄ H ₉	C ₂ H ₄ OH	C ₂ H ₄ OH	OH	OH	CH ₃	H
n-C ₄ H ₉	-CH ₂ -CH-CH ₃ OH	-CH ₂ -CH-CH ₃ OH	OH	OH	CH ₃	H
n-C ₄ H ₉	-CH ₃	C ₂ H ₄ OH	OH	OH	CH ₃	H
n-C ₄ H ₉	-CH ₂ -CH ₂ -CH ₂ OH	-CH ₂ -CH ₂ -CH ₂ OH	OH	OH	CH ₃	H

R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₄ H ₉	-CH ₂ -C ₆ H ₅	-CH ₂ -C ₆ H ₅	OH	OH	CH ₃	H
n-C ₄ H ₉	-CH ₂ -CH ₂ -C ₆ H ₅	-CH ₂ -CH ₂ -C ₆ H ₅	OH	OH	CH ₃	H
n-C ₄ H ₉	H		OH	OH	CH ₃	H
n-C ₄ H ₉	H		OH	OH	CH ₃	H
n-C ₄ H ₉	H		OH	OH	CH ₃	H
n-C ₄ H ₉		-COOH	OH	OH	CH ₃	H
n-C ₄ H ₉		-CH ₂ -COOH	OH	OH	CH ₃	H
n-C ₄ H ₉		-CH ₂ -CH ₂ -COOH	OH	OH	CH ₃	H
n-C ₄ H ₉		COOH	OH	OH	CH ₃	H
n-C ₄ H ₉			OH	OH	CH ₃	H
n-C ₄ H ₉			OH	OH	CH ₃	H


R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₂ -	H	H	H	OH	OH	CH ₃	H
-(CH ₂) ₂ -	H	H	CH ₃	OH	OH	CH ₃	H
-(CH ₂) ₂ -	H	H	C ₂ H ₅	OH	OH	CH ₃	H
-(CH ₂) ₂ -	H	H	n-C ₃ H ₇	OH	OH	CH ₃	H
-(CH ₂) ₂ -	H	H	n-C ₄ H ₉	OH	OH	CH ₃	H
-(CH ₂) ₂ -	H	H	i-C ₃ H ₇	OH	OH	CH ₃	H
-(CH ₂) ₂ -	H	H	i-C ₄ H ₉	OH	OH	CH ₃	H
-(CH ₂) ₂ -	H	H	n-C ₅ H ₁₁	OH	OH	CH ₃	H
-(CH ₂) ₂ -	H	H	n-C ₆ H ₁₃	OH	OH	CH ₃	H
-(CH ₂) ₂ -	H	H	C ₂ H ₄ OH	OH	OH	CH ₃	H
-(CH ₂) ₂ -	H	H	-CH ₂ -CH-CH ₃ OH	OH	OH	CH ₃	H



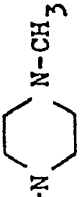
R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₂ -	H	H	-CH ₂ -CH ₂ -CH ₂ -OH	OH	OH	CH ₃	H
-(CH ₂) ₂ -	H	H	-CH ₂ -CH ₂ -N(CH ₃) ₂	OH	OH	CH ₃	H
-(CH ₂) ₂ -	H	H	-CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	OH	OH	CH ₃	H
-(CH ₂) ₂ -	H	H	-CH ₂ -CH ₂ -N(C ₄ H ₉) ₂	OH	OH	CH ₃	H
-(CH ₂) ₂ -	H	H	-CH ₂ -CH ₂ -CH ₂ -N(CH ₃) ₂	OH	OH	CH ₃	H
-(CH ₂) ₂ -	H	H	-CH ₂ -CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	OH	OH	CH ₃	H
-(CH ₂) ₂ -	H	H	-CH ₂ -CON(CH ₃) ₂	OH	OH	CH ₃	H
-(CH ₂) ₂ -	H	H	-CH ₂ -CH ₂ -CON(CH ₃) ₂	OH	OH	CH ₃	H
-(CH ₂) ₂ -	H	H	-CH ₂ -CON(C ₂ H ₅) ₂	OH	OH	CH ₃	H
-(CH ₂) ₂ -	H	H	-CH ₂ -C ₆ H ₅	OH	OH	CH ₃	H
-(CH ₂) ₂ -	H	H	-CH ₂ -CH ₂ -C ₆ H ₅	OH	OH	CH ₃	H
-(CH ₂) ₂ -	H	H	-CH ₂ -CH ₂ -N 	OH	OH	CH ₃	H




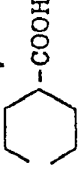
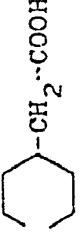
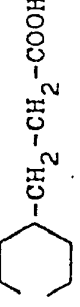



R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₂ -		H		OH	OH	CH ₃	H
-(CH ₂) ₂ -		H		OH	OH	CH ₃	H
-(CH ₂) ₂ -		H		OH	OH	CH ₃	H
-(CH ₂) ₂ -		n-C ₅ H ₁₁	n-C ₅ H ₁₁	OH	OH	CH ₃	H
-(CH ₂) ₂ -		n-C ₆ H ₁₃	n-C ₆ H ₁₃	OH	OH	CH ₃	H
-(CH ₂) ₂ -		i-C ₃ H ₇	i-C ₃ H ₇	OH	OH	CH ₃	H
-(CH ₂) ₂ -		i-C ₄ H ₉	i-C ₄ H ₉	OH	OH	CH ₃	H
-(CH ₂) ₂ -		C ₂ H ₄ OH	C ₂ H ₄ OH	OH	OH	CH ₃	H
-(CH ₂) ₂ -		-CH ₂ -CH-CH ₃ OH	-CH ₂ -CH-CH ₃ OH	OH	OH	CH ₃	H
-(CH ₂) ₂ -		-CH ₃	C ₂ H ₄ OH	OH	OH	CH ₃	H
-(CH ₂) ₂ -		-CH ₂ -CH ₂ -CH ₂ OH	-CH ₂ -CH ₂ -CH ₂ OH	OH	OH	CH ₃	H

R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₂ -		-CH ₂ -C ₆ H ₅	-CH ₂ -C ₆ H ₅	OH	OH	CH ₃	H
-(CH ₂) ₂ -		-CH ₂ -CH ₂ -C ₆ H ₅	-CH ₂ -CH ₂ -C ₆ H ₅	OH	OH	CH ₃	H
-(CH ₂) ₂ -		H		OH	OH	CH ₃	H
-(CH ₂) ₂ -		H		OH	OH	CH ₃	H
-(CH ₂) ₂ -		H		OH	OH	CH ₃	H
-(CH ₂) ₂ -				OH	OH	CH ₃	H
-(CH ₂) ₂ -				OH	OH	CH ₃	H
-(CH ₂) ₂ -				OH	OH	CH ₃	H
-(CH ₂) ₂ -				OH	OH	CH ₃	H
-(CH ₂) ₂ -				OH	OH	CH ₃	H
-(CH ₂) ₂ -				OH	OH	CH ₃	H



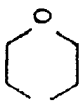
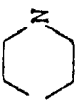
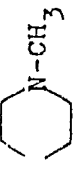
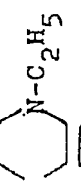
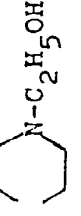
R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₃ -	H	H	H	OH	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	CH ₃	OH	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	C ₂ H ₅	OH	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	n-C ₃ H ₇	OH	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	n-C ₄ H ₉	OH	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	i-C ₃ H ₇	OH	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	i-C ₄ H ₉	OH	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	n-C ₅ H ₁₁	OH	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	n-C ₆ H ₁₃	OH	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	C ₂ H ₄ OH	OH	OH	CH ₃	H
-(CH ₂) ₃ -	H	H	-CH ₂ -CH-CH ₃ bH	OH	OH	CH ₃	H

R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₃ -		H	-CH ₂ -CH ₂ -CH ₂ -OH	OH	OH	CH ₃	H
-(CH ₂) ₃ -		H	-CH ₂ -CH ₂ -N(CH ₃) ₂	OH	OH	CH ₃	H
-(CH ₂) ₃ -		H	-CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	OH	OH	CH ₃	H
-(CH ₂) ₃ -		H	-CH ₂ -CH ₂ -N(C ₄ H ₉) ₂	OH	OH	CH ₃	H
-(CH ₂) ₃ -		H	-CH ₂ -CH ₂ -N(CH ₃) ₂	OH	OH	CH ₃	H
-(CH ₂) ₃ -		H	-CH ₂ -CH ₂ -CH ₂ -N(CH ₃) ₂	OH	OH	CH ₃	H
-(CH ₂) ₃ -		H	-CH ₂ -CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	OH	OH	CH ₃	H
-(CH ₂) ₃ -		H	-CH ₂ -CON(CH ₃) ₂	OH	OH	CH ₃	H
-(CH ₂) ₃ -		H	-CH ₂ -CH ₂ -CON(CH ₃) ₂	OH	OH	CH ₃	H
-(CH ₂) ₃ -		H	-CH ₂ -CON(C ₂ H ₅) ₂	OH	OH	CH ₃	H
-(CH ₂) ₃ -		H	-CH ₂ -C ₆ H ₅	OH	OH	CH ₃	H
-(CH ₂) ₃ -		H	-CH ₂ -CH ₂ -C ₆ H ₅	OH	OH	CH ₃	H
-(CH ₂) ₃ -		H	-CH ₂ -CH ₂ -N 	OH	OH	CH ₃	H







R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₃ -		H	-CH ₂ -CH ₂ -N- 	OH	OH	CH ₃	H
-(CH ₂) ₃ -		H	-CH ₂ -CH ₂ -N- 	OH	OH	CH ₃	H
-(CH ₂) ₃ -		H	-CH ₂ -CH ₂ -N-  -CH ₃	OH	OH	CH ₃	H
-(CH ₂) ₃ -		n-C ₅ H ₁₁	n-C ₅ H ₁₁	OH	OH	CH ₃	H
-(CH ₂) ₃ -		n-C ₆ H ₁₃	n-C ₆ H ₁₃	OH	OH	CH ₃	H
-(CH ₂) ₃ -		i-C ₃ H ₇	i-C ₃ H ₇	OH	OH	CH ₃	H
-(CH ₂) ₃ -		i-C ₄ H ₉	i-C ₄ H ₉	OH	OH	CH ₃	H
-(CH ₂) ₃ -		C ₂ H ₄ OH	C ₂ H ₄ OH	OH	OH	CH ₃	H
-(CH ₂) ₃ -		-CH ₂ -CH-CH ₃ OH	-CH ₂ -CH-CH ₃ OH	OH	OH	CH ₃	H
-(CH ₂) ₃ -		-CH ₃	C ₂ H ₄ OH	OH	OH	CH ₃	H
-(CH ₂) ₃ -		-CH ₂ -CH ₂ -CH ₂ OH	-CH ₂ -CH ₂ -CH ₂ OH	OH	OH	CH ₃	H

R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
$-(\text{CH}_2)_3-$		$-\text{CH}_2-\text{C}_6\text{H}_5$	$-\text{CH}_2-\text{C}_6\text{H}_5$	OH	OH	CH_3	H
$-(\text{CH}_2)_3-$		$-\text{CH}_2-\text{CH}_2-\text{C}_6\text{H}_5$	$-\text{CH}_2-\text{CH}_2-\text{C}_6\text{H}_5$	OH	OH	CH_3	H
$-(\text{CH}_2)_3-$		H		OH	OH	CH_3	H
$-(\text{CH}_2)_3-$		H		OH	OH	CH_3	H
$-(\text{CH}_2)_3-$		H		OH	OH	CH_3	H
$-(\text{CH}_2)_3-$				OH	OH	CH_3	H
$-(\text{CH}_2)_3-$				OH	OH	CH_3	H
$-(\text{CH}_2)_3-$				OH	OH	CH_3	H
$-(\text{CH}_2)_3-$				OH	OH	CH_3	H
$-(\text{CH}_2)_3-$				OH	OH	CH_3	H
$-(\text{CH}_2)_3-$				OH	OH	CH_3	H





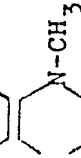
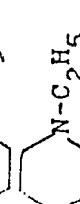
R ₁ , R ₂ , R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
CH ₃	CH ₃	H	OH	CH ₃	Cl
CH ₃	CH ₃	H	OH	CH ₃	Cl
CH ₃	C ₂ H ₅	H	OH	CH ₃	Cl
CH ₃	n-C ₃ H ₇	H	OH	CH ₃	Cl
CH ₃	n-C ₄ H ₉	H	OH	CH ₃	Cl
CH ₃	H	H	OH	CH ₃	Cl
CH ₃	H	H	OH	CH ₃	Cl
CH ₃	CH ₃ -CH-COOH 	H	OH	CH ₃	Cl
CH ₃	CH ₃ -CH-COOC ₂ H ₅ 	H	OH	CH ₃	Cl
CH ₃	-CH ₂ -CH ₂ -COOH	H	OH	CH ₃	Cl
CH ₃	-CH ₂ -CH ₂ -COOC ₂ H ₅	H	OH	CH ₃	Cl

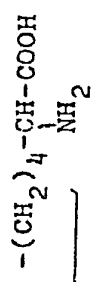
R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
CH ₃	H	$-(\text{CH}_2)_4-$	H	OH	CH ₃	Cl
CH ₃		$-\text{CH}-\text{COOH}$ $\quad $ $\quad \text{NH}_2$	H	OH	CH ₃	Cl
CH ₃			H	OH	CH ₃	Cl
CH ₃		$-\text{CH}-\text{COOH}$ $\quad $ $\quad \text{NH}_2$	H	CH	CH ₃	Cl
CH ₃			H	OH	CH ₃	Cl
CH ₃			H	OH	CH ₃	Cl
CH ₃			H	OH	CH ₃	Cl
CH ₃			H	OH	CH ₃	Cl

R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
C_2H_5	CH_3	CH_3	H	OH	CH_3	Cl
C_2H_5	CH_3	C_2H_5	H	OH	CH_3	Cl
C_2H_5	C_2H_5	C_2H_5	H	OH	CH_3	Cl
C_2H_5	$n-C_3H_7$	$n-C_3H_7$	H	OH	CH_3	Cl
C_2H_5	$n-C_4H_9$	$n-C_4H_9$	H	OH	CH_3	Cl
C_2H_5	H	CH_2-COOH	H	OH	CH_3	Cl
C_2H_5	H	$CH_2-COOC_2H_5$	H	OH	CH_3	Cl
C_2H_5	H	$CH_3-CH-COOH$ 	H	OH	CH_3	Cl
C_2H_5	H	$CH_3-CH-COOC_2H_5$ 	H	OH	CH_3	Cl
C_2H_5	H	$-CH_2-CH_2-COOH$	H	OH	CH_3	Cl
C_2H_5	H	$-CH_2-CH_2-COOC_2H_5$	H	OH	CH_3	Cl

R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
C ₂ H ₅	H	$-(\text{CH}_2)_4-\text{CH}-\text{COOH}$ NH ₂	H	OH	CH ₃	Cl
C ₂ H ₅			H	OH	CH ₃	Cl
C ₂ H ₅			H	OH	CH ₃	Cl
C ₂ H ₅			H	OH	CH ₃	Cl
C ₂ H ₅			H	OH	CH ₃	Cl
C ₂ H ₅			H	OH	CH ₃	Cl
C ₂ H ₅			H	OH	CH ₃	Cl






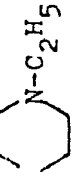
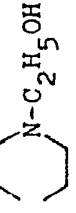
R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_3H_7$	CH_3	CH_3	H	OH	CH_3	Cl
$n-C_3H_7$	CH_3	C_2H_5	H	OH	CH_3	Cl
$n-C_3H_7$	C_2H_5	C_2H_5	H	OH	CH_3	Cl
$n-C_3H_7$	$n-C_3H_7$	$n-C_3H_7$	H	OH	CH_3	Cl
$n-C_3H_7$	$n-C_4H_9$	$n-C_4H_9$	H	OH	CH_3	Cl
$n-C_3H_7$	H	CH_2-COOH	H	OH	CH_3	Cl
$n-C_3H_7$	H	$CH_2-COOC_2H_5$	H	OH	CH_3	Cl
$n-C_3H_7$	H	$CH_3-CH-COOH$ 	H	OH	CH_3	Cl
$n-C_3H_7$	H	$CH_3-CH-COOC_2H_5$ 	H	OH	CH_3	Cl
$n-C_3H_7$	H	$-CH_2-CH_2-COOH$	H	OH	CH_3	Cl
$n-C_3H_7$	H	$-CH_2-CH_2-COOC_2H_5$	H	OH	CH_3	Cl

R_1, R_2, R_3	R_4	R_5	R_6	R_7	R_8
$n-C_3H_7$	H	H	OH	CH_3	Cl
$n-C_3H_7$		H	OH	CH_3	Cl
$n-C_3H_7$		H	OH	CH_3	Cl
$n-C_3H_7$		H	OH	CH_3	Cl
$n-C_3H_7$		H	OH	CH_3	Cl
$n-C_3H_7$		H	OH	CH_3	Cl
$n-C_3H_7$		H	OH	CH_3	Cl



1 02 1

R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_4H_9$	CH_3	CH_3	CH_3	H	OH	CH_3	Cl
$n-C_4H_9$	CH_3	CH_3	C_2H_5	H	OH	CH_3	Cl
$n-C_4H_9$	C_2H_5	C_2H_5	C_2H_5	H	OH	CH_3	Cl
$n-C_4H_9$	$n-C_3H_7$	$n-C_3H_7$	$n-C_3H_7$	H	OH	CH_3	Cl
$n-C_4H_9$	$n-C_4H_9$	$n-C_4H_9$	$n-C_4H_9$	H	OH	CH_3	Cl
$n-C_4H_9$	H	H	CH_2-COOH	H	OH	CH_3	Cl
$n-C_4H_9$	H	H	$CH_2-COOC_2H_5$	H	OH	CH_3	Cl
$n-C_4H_9$	H	H	$CH_3-CH-COOH$	H	OH	CH_3	Cl
$n-C_4H_9$	H	H	$CH_3-CH-COOC_2H_5$	H	OH	CH_3	Cl
$n-C_4H_9$	H	H	$-CH_2-CH_2-COOH$	H	OH	CH_3	Cl
$n-C_4H_9$	H	H	$-CH_2-CH_2-COOC_2H_5$	H	OH	CH_3	Cl

R ₁ , R ₂ , R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₄ H ₉	H	H	OH	CH ₃	Cl
n-C ₄ H ₉		H	OH	CH ₃	Cl
n-C ₄ H ₉		H	OH	CH ₃	Cl
n-C ₄ H ₉		H	OH	CH ₃	Cl
n-C ₄ H ₉		H	OH	CH ₃	Cl
n-C ₄ H ₉		H	OH	CH ₃	Cl
n-C ₄ H ₉		H	OH	CH ₃	Cl
n-C ₄ H ₉		H	OH	CH ₃	Cl

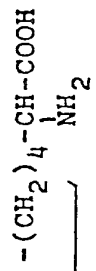









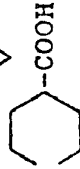


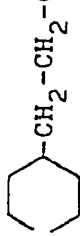
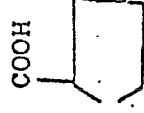
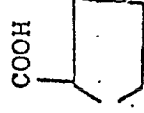
TABELLE III B.

R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
CH_3	H	H	H	OH	CH_3	Cl
CH_3	H	CH_3	H	OH	CH_3	Cl
CH_3	H	C_2H_5	H	OH	CH_3	Cl
CH_3	H	$n-C_3H_7$	H	OH	CH_3	Cl
CH_3	H	$n-C_4H_9$	H	OH	CH_3	Cl
CH_3	H	$i-C_3H_7$	H	OH	CH_3	Cl
CH_3	H	$i-C_4H_9$	H	OH	CH_3	Cl
CH_3	H	$n-C_5H_{11}$	H	OH	CH_3	Cl
CH_3	H	$n-C_6H_{13}$	H	OH	CH_3	Cl
CH_3	H	C_2H_4OH	H	OH	CH_3	Cl
CH_3	H	$-CH_2-\underset{\substack{ \\ OH}}{CH}-CH_3$	H	OH	CH_3	Cl

R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
CH_3	H	$-CH_2-CH_2-CH_2OH$	H	OH	CH_3	Cl
CH_3	H	$-CH_2-CH_2-N(CH_3)_2$	H	OH	CH_3	Cl
CH_3	H	$-CH_2-CH_2-N(C_2H_5)_2$	H	OH	CH_3	Cl
CH_3	H	$-CH_2-CH_2-N(C_4H_9)_2$	H	OH	CH_3	Cl
CH_3	H	$-CH_2-CH_2-CH_2-N(CH_3)_2$	H	OH	CH_3	Cl
CH_3	H	$-CH_2-CH_2-CH_2-N(C_2H_5)_2$	H	OH	CH_3	Cl
CH_3	H	$-CH_2-CON(CH_3)_2$	H	OH	CH_3	Cl
CH_3	H	$-CH_2-CH_2-CON(CH_3)_2$	H	OH	CH_3	Cl
CH_3	H	$-CH_2-CON(C_2H_5)_2$	H	OH	CH_3	Cl
CH_3	H	$-CH_2-C_6H_5$	H	OH	CH_3	Cl
CH_3	H	$-CH_2-CH_2-C_6H_5$	H	OH	CH_3	Cl
CH_3	H	$-CH_2-CH_2-N$ 	H	OH	CH_3	Cl


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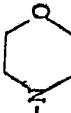

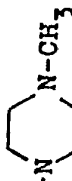
R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
CH_3	H	$-CH_2-CH_2-N$ 	H	OH	CH_3	Cl
CH_3	H	$-CH_2-CH_2-N$ 	H	OH	CH_3	Cl
CH_3	H	$-CH_2-CH_2-N$ 	H	OH	CH_3	Cl
CH_3	$n-C_5H_{11}$	$n-C_5H_{11}$	H	OH	CH_3	Cl
CH_3	$n-C_6H_{13}$	$n-C_6H_{13}$	H	OH	CH_3	Cl
CH_3	$i-C_3H_7$	$i-C_3H_7$	H	OH	CH_3	Cl
CH_3	$i-C_4H_9$	$i-C_4H_9$	H	OH	CH_3	Cl
CH_3	C_2H_4OH	C_2H_4OH	H	OH	CH_3	Cl
CH_3	$-CH_2-\underset{OH}{\underset{ }{CH}}-CH_3$	$-CH_2-\underset{OH}{\underset{ }{CH}}-CH_3$	H	OH	CH_3	Cl
CH_3	$-CH_3$	C_2H_4OH	H	OH	CH_3	Cl
CH_3	$-CH_2-CH_2-CH_2OH$	$-CH_2-CH_2-CH_2OH$	H	OH	CH_3	Cl




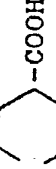
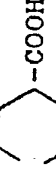
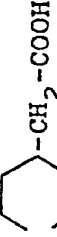
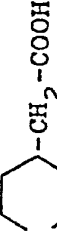
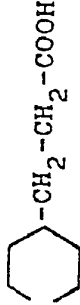
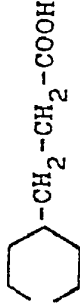
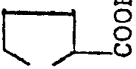
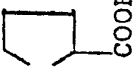
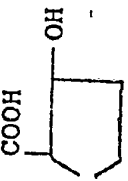
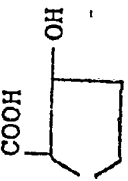
R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
CH_3	$-CH_2-C_6H_5$	$-CH_2-C_6H_5$	H	OH	CH_3	Cl
CH_3	$-CH_2-CH_2-C_6H_5$	$-CH_2-CH_2-C_6H_5$	H	OH	CH_3	Cl
CH_3	H		H	OH	CH_3	Cl
CH_3	H		H	OH	CH_3	Cl
CH_3	H		H	OH	CH_3	Cl
CH_3			H	OH	CH_3	Cl
CH_3			$-CH_2-COOH$	OH	CH_3	Cl
CH_3			$-CH_2-COOH$	OH	CH_3	Cl
CH_3			H	OH	CH_3	Cl
CH_3			$-CH_2-CH_2-COOH$	OH	CH_3	Cl
CH_3			H	OH	CH_3	Cl
CH_3			$-COOH$	OH	CH_3	Cl

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R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
C_2H_5	H	H	H	OH	CH_3	Cl
C_2H_5	H	CH_3	H	OH	CH_3	Cl
C_2H_5	H	C_2H_5	H	OH	CH_3	Cl
C_2H_5	H	$n-C_3H_7$	H	OH	CH_3	Cl
C_2H_5	H	$n-C_4H_9$	H	OH	CH_3	Cl
C_2H_5	H	$i-C_3H_7$	H	OH	CH_3	Cl
C_2H_5	H	$i-C_4H_9$	H	OH	CH_3	Cl
C_2H_5	H	$n-C_5H_{11}$	H	OH	CH_3	Cl
C_2H_5	H	$n-C_6H_{13}$	H	OH	CH_3	Cl
C_2H_5	H	C_2H_4OH	H	OH	CH_3	Cl
C_2H_5	H	$-CH_2-\underset{OH}{\underset{ }{CH}}-CH_3$	H	OH	CH_3	Cl


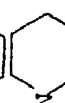
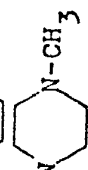
R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
C_2H_5	H	$-CH_2-CH_2-CH_2-OH$	H	OH	CH_3	Cl
C_2H_5	H	$-CH_2-CH_2-N(CH_3)_2$	H	OH	CH_3	Cl
C_2H_5	H	$-CH_2-CH_2-N(C_2H_5)_2$	H	OH	CH_3	Cl
C_2H_5	H	$-CH_2-CH_2-N(C_4H_9)_2$	H	OH	CH_3	Cl
C_2H_5	H	$-CH_2-CH_2-CH_2-N(CH_3)_2$	H	OH	CH_3	Cl
C_2H_5	H	$-CH_2-CH_2-CH_2-N(C_2H_5)_2$	H	OH	CH_3	Cl
C_2H_5	H	$-CH_2-CON(CH_3)_2$	H	OH	CH_3	Cl
C_2H_5	H	$-CH_2-CH_2-CON(CH_3)_2$	H	OH	CH_3	Cl
C_2H_5	H	$-CH_2-CON(C_2H_5)_2$	H	OH	CH_3	Cl
C_2H_5	H	$-CH_2-C_6H_5$	H	OH	CH_3	Cl
C_2H_5	H	$-CH_2-CH_2-C_6H_5$	H	OH	CH_3	Cl
C_2H_5	H	$-CH_2-CH_2-N$ 	H	OH	CH_3	Cl




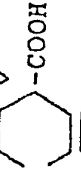
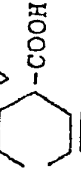
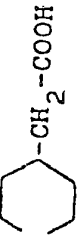
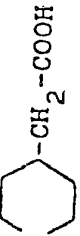
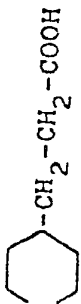
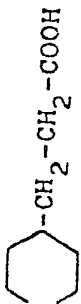
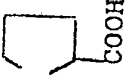
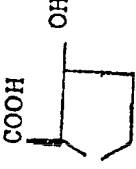
R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
C_2H_5	H	$-CH_2-CH_2-N$ 	H	OH	CH_3	Cl
C_2H_5	H	$-CH_2-CH_2-N$ 	H	OH	CH_3	Cl
C_2H_5	H	$-CH_2-CH_2-N-CH_3$ 	H	OH	CH_3	Cl
C_2H_5	$n-C_5H_{11}$	$n-C_5H_{11}$	H	OH	CH_3	Cl
C_2H_5	$n-C_6H_{13}$	$n-C_6H_{13}$	H	OH	CH_3	Cl
C_2H_5	$i-C_3H_7$	$i-C_3H_7$	H	OH	CH_3	Cl
C_2H_5	$i-C_4H_9$	$i-C_4H_9$	H	OH	CH_3	Cl
C_2H_5	C_2H_4OH	C_2H_4OH	H	OH	CH_3	Cl
C_2H_5	$-CH_2-CH-CH_3$ $\quad \quad $ $\quad \quad OH$	$-CH_2-CH-CH_3$ $\quad \quad $ $\quad \quad OH$	H	OH	CH_3	Cl
C_2H_5	$-CH_3$	C_2H_4OH	H	OH	CH_3	Cl
C_2H_5	$-CH_2-CH_2-CH_2OH$	$-CH_2-CH_2-CH_2OH$	H	OH	CH_3	Cl

R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
C_2H_5	$-CH_2-C_6H_5$	$-CH_2-C_6H_5$	H	OH	CH_3	Cl
C_2H_5	$-CH_2-CH_2-C_6H_5$	$-CH_2-CH_2-C_6H_5$	H	OH	CH_3	Cl
C_2H_5	H		H	OH	CH_3	Cl
C_2H_5	H		H	OH	CH_3	Cl
C_2H_5	H		H	OH	CH_3	Cl
C_2H_5			H	OH	CH_3	Cl
C_2H_5			H	OH	CH_3	Cl
C_2H_5			H	OH	CH_3	Cl
C_2H_5			H	OH	CH_3	Cl
C_2H_5			H	OH	CH_3	Cl


R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_3H_7$	H	H	H	OH	CH_3	Cl
$n-C_3H_7$	H	CH_3	H	OH	CH_3	Cl
$n-C_3H_7$	H	C_2H_5	H	OH	CH_3	Cl
$n-C_3H_7$	H	$n-C_3H_7$	H	OH	CH_3	Cl
$n-C_3H_7$	H	$n-C_4H_9$	H	OH	CH_3	Cl
$n-C_3H_7$	H	$i-C_3H_7$	H	OH	CH_3	Cl
$n-C_3H_7$	H	$i-C_4H_9$	H	OH	CH_3	Cl
$n-C_3H_7$	H	$n-C_5H_{11}$	H	OH	CH_3	Cl
$n-C_3H_7$	H	$n-C_6H_{13}$	H	OH	CH_3	Cl
$n-C_3H_7$	H	C_2H_4OH	H	OH	CH_3	Cl
$n-C_3H_7$	H	$-CH_2-CH-CH_3$ OH	H	OH	CH_3	Cl

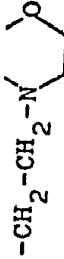
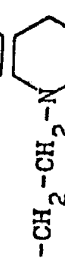
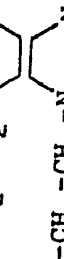
R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_3H_7$	H	$-CH_2-CH_2-CH_2OH$	H	OH	CH_3	Cl
$n-C_3H_7$	H	$-CH_2-CH_2-N(CH_3)_2$	H	OH	CH_3	Cl
$n-C_3H_7$	H	$-CH_2-CH_2-N(C_2H_5)_2$	H	OH	CH_3	Cl
$n-C_3H_7$	H	$-CH_2-CH_2-N(C_4H_9)_2$	H	OH	CH_3	Cl
$n-C_3H_7$	H	$-CH_2-CH_2-CH_2-N(CH_3)_2$	H	OH	CH_3	Cl
$n-C_3H_7$	H	$-CH_2-CH_2-CH_2-N(C_2H_5)_2$	H	OH	CH_3	Cl
$n-C_3H_7$	H	$-CH_2-CON(CH_3)_2$	H	OH	CH_3	Cl
$n-C_3H_7$	H	$-CH_2-CH_2-CON(CH_3)_2$	H	OH	CH_3	Cl
$n-C_3H_7$	H	$-CH_2-CON(C_2H_5)_2$	H	OH	CH_3	Cl
$n-C_3H_7$	H	$-CH_2-C_6H_5$	H	OH	CH_3	Cl
$n-C_3H_7$	H	$-CH_2-CH_2-C_6H_5$	H	OH	CH_3	Cl
$n-C_3H_7$	H	$-CH_2-CH_2-N$ 	H	OH	CH_3	Cl




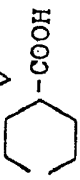
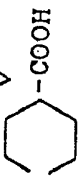
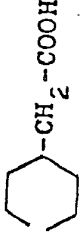
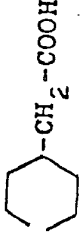
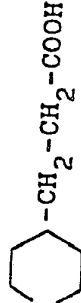
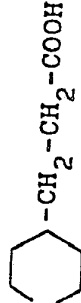
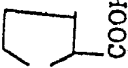
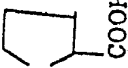
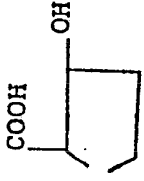
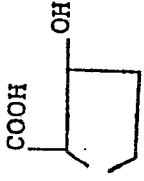
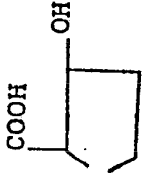
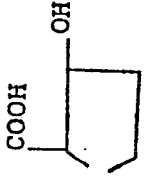
R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_3H_7$	H	$-CH_2-CH_2-N$ 	H	OH	CH_3	Cl
$n-C_3H_7$	H	$-CH_2-CH_2-N$ 	H	OH	CH_3	Cl
$n-C_3H_7$	H	$-CH_2-CH_2-N-CH_3$ 	H	OH	CH_3	Cl
$n-C_3H_7$	$n-C_5H_{11}$	$n-C_5H_{11}$	H	OH	CH_3	Cl
$n-C_3H_7$	$n-C_6H_{13}$	$n-C_6H_{13}$	H	OH	CH_3	Cl
$n-C_3H_7$	$i-C_3H_7$	$i-C_3H_7$	H	OH	CH_3	Cl
$n-C_3H_7$	$i-C_4H_9$	$i-C_4H_9$	H	OH	CH_3	Cl
$n-C_3H_7$	C_2H_4OH	C_2H_4OH	H	OH	CH_3	Cl
$n-C_3H_7$	$-CH_2-CH-CH_3$ OH	$-CH_2-CH-CH_3$ OH	H	OH	CH_3	Cl
$n-C_3H_7$	$-CH_3$	C_2H_4OH	H	OH	CH_3	Cl
$n-C_3H_7$	$-CH_2-CH_2-CH_2OH$	$-CH_2-CH_2-CH_2OH$	H	OH	CH_3	Cl

R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_3H_7$	$-CH_2-C_6H_5$	$-CH_2-C_6H_5$	H	OH	CH_3	Cl
$n-C_3H_7$	$-CH_2-CH_2-C_6H_5$	$-CH_2-CH_2-C_6H_5$	H	OH	CH_3	Cl
$n-C_3H_7$	H		H	OH	CH_3	Cl
$n-C_3H_7$	H		H	OH	CH_3	Cl
$n-C_3H_7$	H		H	OH	CH_3	Cl
$n-C_3H_7$			H	OH	CH_3	Cl
$n-C_3H_7$			H	OH	CH_3	Cl
$n-C_3H_7$			H	OH	CH_3	Cl
$n-C_3H_7$			H	OH	CH_3	Cl
$n-C_3H_7$			H	OH	CH_3	Cl
$n-C_3H_7$			H	OH	CH_3	Cl


R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_4H_9$	H	H	H	OH	CH_3	Cl
$n-C_4H_9$	H	CH_3	H	OH	CH_3	Cl
$n-C_4H_9$	H	C_2H_5	H	OH	CH_3	Cl
$n-C_4H_9$	H	$n-C_3H_7$	H	OH	CH_3	Cl
$n-C_4H_9$	H	$n-C_4H_9$	H	OH	CH_3	Cl
$n-C_4H_9$	H	$i-C_3H_7$	H	OH	CH_3	Cl
$n-C_4H_9$	H	$i-C_4H_9$	H	OH	CH_3	Cl
$n-C_4H_9$	H	$n-C_5H_{11}$	H	OH	CH_3	Cl
$n-C_4H_9$	H	$n-C_6H_{13}$	H	OH	CH_3	Cl
$n-C_4H_9$	H	C_2H_4OH	H	OH	CH_3	Cl
$n-C_4H_9$	H	$-CH_2-\underset{\substack{ \\ OH}}{CH}-CH_3$	H	OH	CH_3	Cl

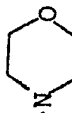
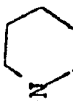

R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_4H_9$	H	$-CH_2-CH_2-CH_2-OH$	H	OH	CH_3	Cl
$n-C_4H_9$	H	$-CH_2-CH_2-N(CH_3)_2$	H	OH	CH_3	Cl
$n-C_4H_9$	H	$-CH_2-CH_2-N(C_2H_5)_2$	H	OH	CH_3	Cl
$n-C_4H_9$	H	$-CH_2-CH_2-N(C_4H_9)_2$	H	OH	CH_3	Cl
$n-C_4H_9$	H	$-CH_2-CH_2-CH_2-N(CH_3)_2$	H	OH	CH_3	Cl
$n-C_4H_9$	H	$-CH_2-CH_2-CH_2-N(C_2H_5)_2$	H	OH	CH_3	Cl
$n-C_4H_9$	H	$-CH_2-CON(CH_3)_2$	H	OH	CH_3	Cl
$n-C_4H_9$	H	$-CH_2-CH_2-CON(CH_3)_2$	H	OH	CH_3	Cl
$n-C_4H_9$	H	$-CH_2-CON(C_2H_5)_2$	H	OH	CH_3	Cl
$n-C_4H_9$	H	$-CH_2-C_6H_5$	H	OH	CH_3	Cl
$n-C_4H_9$	H	$-CH_2-CH_2-C_6H_5$	H	OH	CH_3	Cl
$n-C_4H_9$	H	$-CH_2-CH_2-N$ 	H	OH	CH_3	Cl




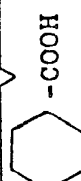
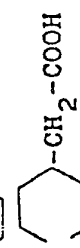
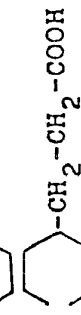
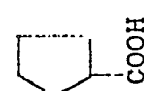
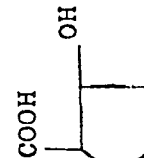
R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_4H_9$	H	$-CH_2-CH_2-N$ 	H	OH	CH_3	Cl
$n-C_4H_9$	H	$-CH_2-CH_2-N$ 	H	OH	CH_3	Cl
$n-C_4H_9$	H	$-CH_2-CH_2-N-CH_3$ 	H	OH	CH_3	Cl
$n-C_4H_9$	$n-C_5H_{11}$	$n-C_5H_{11}$	H	OH	CH_3	Cl
$n-C_4H_9$	$n-C_6H_{13}$	$n-C_6H_{13}$	H	OH	CH_3	Cl
$n-C_4H_9$	$i-C_3H_7$	$i-C_3H_7$	H	OH	CH_3	Cl
$n-C_4H_9$	$i-C_4H_9$	$i-C_4H_9$	H	OH	CH_3	Cl
$n-C_4H_9$	C_2H_4OH	C_2H_4OH	H	OH	CH_3	Cl
$n-C_4H_9$	$-CH_2-CH-CH_3$ OH	$-CH_2-CH-CH_3$ OH	H	OH	CH_3	Cl
$n-C_4H_9$	$-CH_3$	C_2H_4OH	H	OH	CH_3	Cl
$n-C_4H_9$	$-CH_2-CH_2-CH_2OH$	$-CH_2-CH_2-CH_2OH$	H	OH	CH_3	Cl

R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_4H_9$	$-CH_2-C_6H_5$	$-CH_2-C_6H_5$	H	OH	CH_3	Cl
$n-C_4H_9$	$-CH_2-CH_2-C_6H_5$	$-CH_2-CH_2-C_6H_5$	H	OH	CH_3	Cl
$n-C_4H_9$	H		H	OH	CH_3	Cl
$n-C_4H_9$	H		H	OH	CH_3	Cl
$n-C_4H_9$	H		H	OH	CH_3	Cl
$n-C_4H_9$			H	OH	CH_3	Cl
$n-C_4H_9$			H	OH	CH_3	Cl
$n-C_4H_9$			H	OH	CH_3	Cl
$n-C_4H_9$			H	OH	CH_3	Cl
$n-C_4H_9$			H	OH	CH_3	Cl
$n-C_4H_9$			H	OH	CH_3	Cl


R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
$-(CH_2)_2-$	H	H	H	H	OH	CH ₃	Cl
$-(CH_2)_2-$	H	H	CH ₃	H	OH	CH ₃	Cl
$-(CH_2)_2-$	H	H	C ₂ H ₅	H	OH	CH ₃	Cl
$-(CH_2)_2-$	H	H	n-C ₃ H ₇	H	OH	CH ₃	Cl
$-(CH_2)_2-$	H	H	n-C ₄ H ₉	H	OH	CH ₃	Cl
$-(CH_2)_2-$	H	H	i-C ₃ H ₇	H	OH	CH ₃	Cl
$-(CH_2)_2-$	H	H	i-C ₄ H ₉	H	OH	CH ₃	Cl
$-(CH_2)_2-$	H	H	n-C ₅ H ₁₁	H	OH	CH ₃	Cl
$-(CH_2)_2-$	H	H	n-C ₆ H ₁₃	H	OH	CH ₃	Cl
$-(CH_2)_2-$	H	H	C ₂ H ₄ OH	H	OH	CH ₃	Cl
$-(CH_2)_2-$	H	H	$-\text{CH}_2-\underset{\text{OH}}{\text{CH}}-\text{CH}_3$	H	OH	CH ₃	Cl

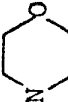

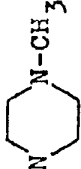
R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₂ -		H	-CH ₂ -CH ₂ -CH ₂ OH	H	OH	CH ₃	Cl
-(CH ₂) ₂ -		H	-CH ₂ -CH ₂ -N(CH ₃) ₂	H	OH	CH ₃	Cl
-(CH ₂) ₂ -		H	-CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	H	OH	CH ₃	Cl
-(CH ₂) ₂ -		H	-CH ₂ -CH ₂ -N(C ₄ H ₉) ₂	H	OH	CH ₃	Cl
-(CH ₂) ₂ -		H	-CH ₂ -CH ₂ -CH ₂ -N(CH ₃) ₂	H	OH	CH ₃	Cl
-(CH ₂) ₂ -		H	-CH ₂ -CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	H	OH	CH ₃	Cl
-(CH ₂) ₂ -		H	-CH ₂ -CON(CH ₃) ₂	H	OH	CH ₃	Cl
-(CH ₂) ₂ -		H	-CH ₂ -CH ₂ -CON(CH ₃) ₂	H	OH	CH ₃	Cl
-(CH ₂) ₂ -		H	-CH ₂ -CON(C ₂ H ₅) ₂	H	OH	CH ₃	Cl
-(CH ₂) ₂ -		H	-CH ₂ -C ₆ H ₅	H	OH	CH ₃	Cl
-(CH ₂) ₂ -		H	-CH ₂ -CH ₂ -C ₆ H ₅	H	OH	CH ₃	Cl
-(CH ₂) ₂ -		H	-CH ₂ -CH ₂ -N 	H	OH	CH ₃	Cl




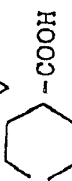
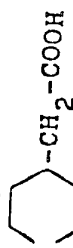
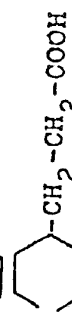
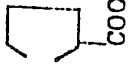
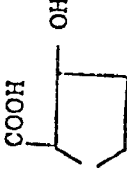
R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₂ -		H	 -CH ₂ -CH ₂ -N	H	OH	CH ₃	Cl
-(CH ₂) ₂ -		H	 -CH ₂ -CH ₂ -N	H	OH	CH ₃	Cl
-(CH ₂) ₂ -		H	 -CH ₂ -CH ₂ -N-CH ₃	H	OH	CH ₃	Cl
-(CH ₂) ₂ -		n-C ₅ H ₁₁	n-C ₅ H ₁₁	H	OH	CH ₃	Cl
-(CH ₂) ₂ -		n-C ₆ H ₁₃	n-C ₆ H ₁₃	H	OH	CH ₃	Cl
-(CH ₂) ₂ -		i-C ₃ H ₇	i-C ₃ H ₇	H	OH	CH ₃	Cl
-(CH ₂) ₂ -		i-C ₄ H ₉	i-C ₄ H ₉	H	OH	CH ₃	Cl
-(CH ₂) ₂ -		C ₂ H ₄ OH	C ₂ H ₄ OH	H	OH	CH ₃	Cl
-(CH ₂) ₂ -		-CH ₂ -CH-CH ₃ OH	-CH ₂ -CH-CH ₃ OH	H	OH	CH ₃	Cl
-(CH ₂) ₂ -		-CH ₃	C ₂ H ₄ OH	H	OH	CH ₃	Cl
-(CH ₂) ₂ -		-CH ₂ -CH ₂ -CH ₂ OH	-CH ₂ -CH ₂ -CH ₂ OH	H	OH	CH ₃	Cl

R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₂ -		-CH ₂ -C ₆ H ₅	-CH ₂ -C ₆ H ₅	H	OH	CH ₃	Cl
-(CH ₂) ₂ -		-CH ₂ -CH ₂ -C ₆ H ₅	-CH ₂ -CH ₂ -C ₆ H ₅	H	OH	CH ₃	Cl
-(CH ₂) ₂ -		H		H	OH	CH ₃	Cl
-(CH ₂) ₂ -		H		H	OH	CH ₃	Cl
-(CH ₂) ₂ -		H		H	OH	CH ₃	Cl
-(CH ₂) ₂ -				H	OH	CH ₃	Cl
-(CH ₂) ₂ -				H	OH	CH ₃	Cl
-(CH ₂) ₂ -				H	OH	CH ₃	Cl
-(CH ₂) ₂ -				H	OH	CH ₃	Cl
-(CH ₂) ₂ -				H	OH	CH ₃	Cl
-(CH ₂) ₂ -				H	OH	CH ₃	Cl

R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₃ -	H	H	H	H	OH	CH ₃	Cl
-(CH ₂) ₃ -	H	H	CH ₃	H	OH	CH ₃	Cl
-(CH ₂) ₃ -	H	H	C ₂ H ₅	H	OH	CH ₃	Cl
-(CH ₂) ₃ -	H	H	n-C ₃ H ₇	H	OH	CH ₃	Cl
-(CH ₂) ₃ -	H	H	n-C ₄ H ₉	H	OH	CH ₃	Cl
-(CH ₂) ₃ -	H	H	i-C ₃ H ₇	H	OH	CH ₃	Cl
-(CH ₂) ₃ -	H	H	i-C ₄ H ₉	H	OH	CH ₃	Cl
-(CH ₂) ₃ -	H	H	n-C ₅ H ₁₁	H	OH	CH ₃	Cl
-(CH ₂) ₃ -	H	H	n-C ₆ H ₁₃	H	OH	CH ₃	Cl
-(CH ₂) ₃ -	H	H	C ₂ H ₄ OH	H	OH	CH ₃	Cl
-(CH ₂) ₃ -	H	H	-CH ₂ -CH-CH ₃ OH	H	OH	CH ₃	Cl



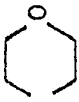
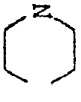
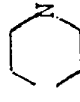
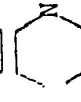

R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -CH ₂ -OH	H	OH	CH ₃	Cl
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -N(CH ₃) ₂	H	OH	CH ₃	Cl
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	H	OH	CH ₃	Cl
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -N(C ₄ H ₉) ₂	H	OH	CH ₃	Cl
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -CH ₂ -N(CH ₃) ₂	H	OH	CH ₃	Cl
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	H	OH	CH ₃	Cl
-(CH ₂) ₃ -	H	H	-CH ₂ -CON(CH ₃) ₂	H	OH	CH ₃	Cl
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -CON(CH ₃) ₂	H	OH	CH ₃	Cl
-(CH ₂) ₃ -	H	H	-CH ₂ -CON(C ₂ H ₅) ₂	H	OH	CH ₃	Cl
-(CH ₂) ₃ -	H	H	-CH ₂ -C ₆ H ₅	H	OH	CH ₃	Cl
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -C ₆ H ₅	H	OH	CH ₃	Cl
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -N 	H	OH	CH ₃	Cl

R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₃ -		H	-CH ₂ -CH ₂ -N 	H	OH	CH ₃	Cl
-(CH ₂) ₃ -		H	-CH ₂ -CH ₂ -N 	H	OH	CH ₃	Cl
-(CH ₂) ₃ -		H	-CH ₂ -CH ₂ -N  -CH ₃	H	OH	CH ₃	Cl
-(CH ₂) ₃ -		n-C ₅ H ₁₁	n-C ₅ H ₁₁	H	OH	CH ₃	Cl
-(CH ₂) ₃ -		n-C ₆ H ₁₃	n-C ₆ H ₁₃	H	OH	CH ₃	Cl
-(CH ₂) ₃ -		i-C ₃ H ₇	i-C ₃ H ₇	H	OH	CH ₃	Cl
-(CH ₂) ₃ -		i-C ₄ H ₉	i-C ₄ H ₉	H	OH	CH ₃	Cl
-(CH ₂) ₃ -		C ₂ H ₄ OH	C ₂ H ₄ OH	H	OH	CH ₃	Cl
-(CH ₂) ₃ -		-CH ₂ -CH-CH ₃ OH	-CH ₂ -CH-CH ₃ OH	H	OH	CH ₃	Cl
-(CH ₂) ₃ -		-CH ₃	C ₂ H ₄ OH	H	OH	CH ₃	Cl
-(CH ₂) ₃ -		-CH ₂ -CH ₂ -CH ₂ OH	-CH ₂ -CH ₂ -CH ₂ OH	H	OH	CH ₃	Cl

R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₃ -		-CH ₂ -C ₆ H ₅	-CH ₂ -C ₆ H ₅	H	OH	CH ₃	Cl
-(CH ₂) ₃ -		-CH ₂ -CH ₂ -C ₆ H ₅	-CH ₂ -CH ₂ -C ₆ H ₅	H	OH	CH ₃	Cl
-(CH ₂) ₃ -		H		H	OH	CH ₃	Cl
-(CH ₂) ₃ -		H		H	OH	CH ₃	Cl
-(CH ₂) ₃ -		H		H	OH	CH ₃	Cl
-(CH ₂) ₃ -				H	OH	CH ₃	Cl
-(CH ₂) ₃ -				H	OH	CH ₃	Cl
-(CH ₂) ₃ -				H	OH	CH ₃	Cl
-(CH ₂) ₃ -				H	OH	CH ₃	Cl
-(CH ₂) ₃ -				H	OH	CH ₃	Cl
-(CH ₂) ₃ -				H	OH	CH ₃	Cl








T A B E L L E IV A.

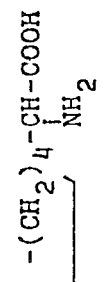
R ₁ , R ₂ , R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
CH ₃	CH ₃	OH	H	CH ₃	H
CH ₃	CH ₃	OH	H	CH ₃	H
CH ₃	C ₂ H ₅	OH	H	CH ₃	H
CH ₃	n-C ₃ H ₇	OH	H	CH ₃	H
CH ₃	n-C ₄ H ₉	OH	H	CH ₃	H
CH ₃	H	OH	H	CH ₃	H
CH ₃	H	OH	H	CH ₃	H
CH ₃	H	OH	H	CH ₃	H
CH ₃	H	OH	H	CH ₃	H
CH ₃	H	OH	H	CH ₃	H
CH ₃	H	OH	H	CH ₃	H
CH ₃	H	OH	H	CH ₃	H

R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
CH ₃	H	$-(\text{CH}_2)_4-\text{CH}-\text{COOH}$ NH ₂	OH	H	CH ₃	H
CH ₃			OH	H	CH ₃	H
CH ₃			OH	H	CH ₃	H
CH ₃			OH	H	CH ₃	H
CH ₃			OH	H	CH ₃	H
CH ₃			OH	H	CH ₃	H
CH ₃			OH	H	CH ₃	H
CH ₃			OH	H	CH ₃	H





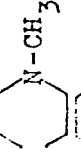
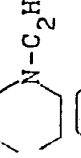
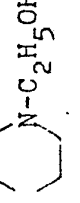
R_1, R_2, R_3	R_4	R_5	R_6	R_7	R_8
C_2H_5	CH_3	OH	H	CH_3	H
C_2H_5	C_2H_5	OH	H	CH_3	H
C_2H_5	C_2H_5	OH	H	CH_3	H
C_2H_5	$n-C_3H_7$	OH	H	CH_3	H
C_2H_5	$n-C_4H_9$	OH	H	CH_3	H
C_2H_5	H	OH	H	CH_3	H
C_2H_5	H	OH	H	CH_3	H
C_2H_5	H	OH	H	CH_3	H
C_2H_5	H	OH	H	CH_3	H
C_2H_5	H	OH	H	CH_3	H
C_2H_5	H	OH	H	CH_3	H
C_2H_5	H	OH	H	CH_3	H
C_2H_5	H	OH	H	CH_3	H

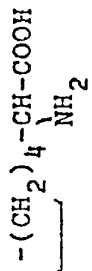
! \approx !

R ₁ , R ₂ , R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
C ₂ H ₅	H	OH	H	CH ₃	H
C ₂ H ₅		OH	H	CH ₃	H
C ₂ H ₅		OH	H	CH ₃	H
C ₂ H ₅		OH	H	CH ₃	H
C ₂ H ₅		OH	H	CH ₃	H
C ₂ H ₅		OH	H	CH ₃	H
C ₂ H ₅		OH	H	CH ₃	H
C ₂ H ₅		OH	H	CH ₃	H



R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_3H_7$	CH_3	CH_3	OH	H	CH_3	H
$n-C_3H_7$	CH_3	C_2H_5	OH	H	CH_3	H
$n-C_3H_7$	C_2H_5	C_2H_5	OH	H	CH_3	H
$n-C_3H_7$	$n-C_3H_7$	$n-C_3H_7$	OH	H	CH_3	H
$n-C_3H_7$	$n-C_4H_9$	$n-C_4H_9$	OH	H	CH_3	H
$n-C_3H_7$	H	CH_2-COOH	OH	H	CH_3	H
$n-C_3H_7$	H	$CH_2-COOC_2H_5$	OH	H	CH_3	H
$n-C_3H_7$	H	$CH_3-CH-COOH$ 	OH	H	CH_3	H
$n-C_3H_7$	H	$CH_3-CH-COOC_2H_5$ 	OH	H	CH_3	H
$n-C_3H_7$	H	$-CH_2-CH_2-COOH$	OH	H	CH_3	H
$n-C_3H_7$	H	$-CH_2-CH_2-COOC_2H_5$	OH	H	CH_3	H

R ₁ , R ₂ , R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₃ H ₇	H	OH	H	CH ₃	H
n-C ₃ H ₇		OH	H	CH ₃	H
n-C ₃ H ₇		OH	H	CH ₃	H
n-C ₃ H ₇		OH	H	CH ₃	H
n-C ₃ H ₇		OH	H	CH ₃	H
n-C ₃ H ₇		OH	H	CH ₃	H
n-C ₃ H ₇		OH	H	CH ₃	H
n-C ₃ H ₇		OH	H	CH ₃	H



R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_4H_9$	CH_3	CH_3	OH	H	CH_3	H
$n-C_4H_9$	CH_3	C_2H_5	OH	H	CH_3	H
$n-C_4H_9$	C_2H_5	C_2H_5	OH	H	CH_3	H
$n-C_4H_9$	$n-C_3H_7$	$n-C_3H_7$	OH	H	CH_3	H
$n-C_4H_9$	$n-C_4H_9$	$n-C_4H_9$	OH	H	CH_3	H
$n-C_4H_9$	H	CH_2-COOH	OH	H	CH_3	H
$n-C_4H_9$	H	$CH_2-COOC_2H_5$	OH	H	CH_3	H
$n-C_4H_9$	H	$CH_3-CH-COOH$ 	OH	H	CH_3	H
$n-C_4H_9$	H	$CH_3-CH-COOC_2H_5$ 	OH	H	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-COOH$	OH	H	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-COOC_2H_5$	OH	H	CH_3	H



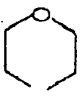
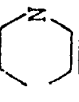
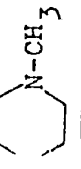
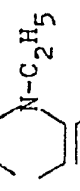
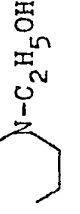

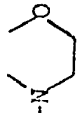
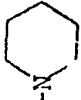





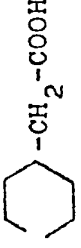
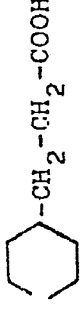


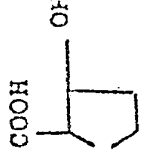
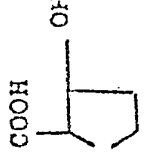
R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₄ H ₉	H	$-(\text{CH}_2)_4-\underset{\text{NH}_2}{\text{CH}}-\text{COOH}$	OH	H	CH ₃	H
n-C ₄ H ₉			OH	H	CH ₃	H
n-C ₄ H ₉			OH	H	CH ₃	H
n-C ₄ H ₉			OH	H	CH ₃	H
n-C ₄ H ₉			OH	H	CH ₃	H
n-C ₄ H ₉			OH	H	CH ₃	H
n-C ₄ H ₉			OH	H	CH ₃	H
n-C ₄ H ₉			OH	H	CH ₃	H

TABELLE IV B.


R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
CH_3	H	H	OH	H	CH_3	H
CH_3	H	CH_3	OH	H	CH_3	H
CH_3	H	C_2H_5	OH	H	CH_3	H
CH_3	H	$n-C_3H_7$	OH	H	CH_3	H
CH_3	H	$n-C_4H_9$	OH	H	CH_3	H
CH_3	H	$i-C_3H_7$	OH	H	CH_3	H
CH_3	H	$i-C_4H_9$	OH	H	CH_3	H
CH_3	H	$n-C_5H_{11}$	OH	H	CH_3	H
CH_3	H	$n-C_6H_{13}$	OH	H	CH_3	H
CH_3	H	C_2H_4OH	OH	H	CH_3	H
CH_3	H	$-CH_2-\underset{\text{CH}}{\text{CH}}-\text{CH}_3$	OH	H	CH_3	H




R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
CH ₃	H	-CH ₂ -CH ₂ -CH ₂ OH	OH	H	CH ₃	H
CH ₃	H	-CH ₂ -CH ₂ -N(CH ₃) ₂	OH	H	CH ₃	H
CH ₃	H	-CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	OH	H	CH ₃	F
CH ₃	H	-CH ₂ -CH ₂ -N(C ₄ H ₉) ₂	OH	H	CH ₃	H
CH ₃	H	-CH ₂ -CH ₂ -CH ₂ -N(CH ₃) ₂	OH	H	CH ₃	H
CH ₃	H	-CH ₂ -CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	OH	H	CH ₃	H
CH ₃	H	-CH ₂ -CON(CH ₃) ₂	OH	H	CH ₃	H
CH ₃	H	-CH ₂ -CH ₂ -CON(CH ₃) ₂	OH	H	CH ₃	H
CH ₃	H	-CH ₂ -CON(C ₂ H ₅) ₂	OH	H	CH ₃	H
CH ₃	H	-CH ₂ -C ₆ H ₅	OH	H	CH ₃	H
CH ₃	H	-CH ₂ -CH ₂ -C ₆ H ₅	OH	H	CH ₃	H
CH ₃	H	-CH ₂ -CH ₂ -N 	OH	H	CH ₃	H




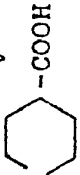
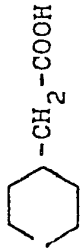
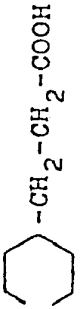

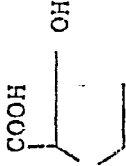
R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
CH_3	H	$-CH_2-CH_2-N$ 	OH	H	CH_3	H
CH_3	H	$-CH_2-CH_2-N$ 	OH	H	CH_3	H
CH_3	H	$-CH_2-CH_2-N-CH_3$ 	OH	H	CH_3	H
CH_3	$n-C_5H_{11}$	$n-C_5H_{11}$	OH	H	CH_3	H
CH_3	$n-C_6H_{13}$	$n-C_6H_{13}$	OH	H	CH_3	H
CH_3	$i-C_3H_7$	$i-C_3H_7$	OH	H	CH_3	H
CH_3	$i-C_4H_9$	$i-C_4H_9$	OH	H	CH_3	H
CH_3	C_2H_4OH	C_2H_4OH	OH	H	CH_3	H
CH_3	$-CH_2-\underset{OH}{\underset{ }{CH}}-CH_3$	$-CH_2-\underset{OH}{\underset{ }{CH}}-CH_3$	OH	H	CH_3	H
CH_3	$-CH_3$	C_2H_4OH	OH	H	CH_3	H
CH_3	$-CH_2-CH_2-CH_2OH$	$-CH_2-CH_2-CH_2OH$	OH	H	CH_3	H

R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
CH ₃	-CH ₂ -C ₆ H ₅	-CH ₂ -C ₆ H ₅	OH	H	CH ₃	H
CH ₃	-CH ₂ -CH ₂ -C ₆ H ₅	-CH ₂ -CH ₂ -C ₆ H ₅	OH	H	CH ₃	H
CH ₃	H		OH	H	CH ₃	H
CH ₃	H		OH	H	CH ₃	H
CH ₃	H		OH	H	CH ₃	H
CH ₃		-COOH	OH	H	CH ₃	H
CH ₃		-CH ₂ -COOH	OH	H	CH ₃	H
CH ₃		-CH ₂ -CH ₂ -COOH	OH	H	CH ₃	H
CH ₃			OH	H	CH ₃	H
CH ₃			OH	H	CH ₃	H
CH ₃			OH	H	CH ₃	H


R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
C_2H_5	H	H	OH	H	CH_3	H
C_2H_5	H	CH_3	OH	H	CH_3	H
C_2H_5	H	C_2H_5	OH	H	CH_3	H
C_2H_5	H	$n-C_3H_7$	OH	H	CH_3	H
C_2H_5	H	$n-C_4H_9$	OH	H	CH_3	H
C_2H_5	H	$i-C_3H_7$	OH	H	CH_3	H
C_2H_5	H	$i-C_4H_9$	OH	H	CH_3	H
C_2H_5	H	$n-C_5H_{11}$	OH	H	CH_3	H
C_2H_5	H	$n-C_6H_{13}$	OH	H	CH_3	H
C_2H_5	H	C_2H_4OH	OH	H	CH_3	H
C_2H_5	H	$-CH_2-\underset{OH}{\overset{ }{CH}}-CH_3$	OH	H	CH_3	H

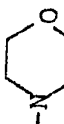

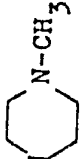
R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
C_2H_5	H	$-CH_2-CH_2-CH_2OH$	OH	H	CH_3	H
C_2H_5	H	$-CH_2-CH_2-N(CH_3)_2$	OH	H	CH_3	H
C_2H_5	H	$-CH_2-CH_2-N(C_2H_5)_2$	OH	H	CH_3	H
C_2H_5	H	$-CH_2-CH_2-N(C_4H_9)_2$	OH	H	CH_3	H
C_2H_5	H	$-CH_2-CH_2-CH_2-N(CH_3)_2$	OH	H	CH_3	H
C_2H_5	H	$-CH_2-CH_2-CH_2-N(C_2H_5)_2$	OH	H	CH_3	H
C_2H_5	H	$-CH_2-CON(CH_3)_2$	OH	H	CH_3	H
C_2H_5	H	$-CH_2-CH_2-CON(CH_3)_2$	OH	H	CH_3	H
C_2H_5	H	$-CH_2-CON(C_2H_5)_2$	OH	H	CH_3	H
C_2H_5	H	$-CH_2-C_6H_5$	OH	H	CH_3	H
C_2H_5	H	$-CH_2-CH_2-C_6H_5$	OH	H	CH_3	H
C_2H_5	H	$-CH_2-CH_2-N$ 	OH	H	CH_3	H












R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
C_2H_5	H	$-CH_2-CH_2-N$ 	OH	H	CH_3	H
C_2H_5	H	$-CH_2-CH_2-N$ 	OH	H	CH_3	H
C_2H_5	H	$-CH_2-CH_2-N$ 	OH	H	CH_3	H
C_2H_5	$n-C_5H_{11}$	$n-C_5H_{11}$	OH	H	CH_3	H
C_2H_5	$n-C_6H_{13}$	$n-C_6H_{13}$	OH	H	CH_3	H
C_2H_5	$i-C_3H_7$	$i-C_3H_7$	OH	H	CH_3	H
C_2H_5	$i-C_4H_9$	$i-C_4H_9$	OH	H	CH_3	H
C_2H_5	C_2H_4OH	C_2H_4OH	OH	H	CH_3	H
C_2H_5	$-CH_2-\underset{OH}{\overset{ }{CH}}-CH_3$	$-CH_2-\underset{OH}{\overset{ }{CH}}-CH_3$	OH	H	CH_3	H
C_2H_5	$-CH_3$	C_2H_4OH	OH	H	CH_3	H
C_2H_5	$-CH_2-CH_2-CH_2OH$	$-CH_2-CH_2-CH_2OH$	OH	H	CH_3	H

R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
C ₂ H ₅	-CH ₂ -C ₆ H ₅	-CH ₂ -C ₆ H ₅	OH	H	CH ₃	H
C ₂ H ₅	-CH ₂ -CH ₂ -C ₆ H ₅	-CH ₂ -CH ₂ -C ₆ H ₅	OH	H	CH ₃	H
C ₂ H ₅	H		OH	H	CH ₃	H
C ₂ H ₅	H		OH	H	CH ₃	H
C ₂ H ₅	H		OH	H	CH ₃	H
C ₂ H ₅		-COOH	OH	H	CH ₃	H
C ₂ H ₅		-CH ₂ -COOH	OH	H	CH ₃	H
C ₂ H ₅		-CH ₂ -CH ₂ -COOH	OH	H	CH ₃	H
C ₂ H ₅		COOH	OH	H	CH ₃	H
C ₂ H ₅			OH	H	CH ₃	H
C ₂ H ₅			OH	H	CH ₃	H


R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_3H_7$	H	H	OH	H	CH_3	H
$n-C_3H_7$	H	CH_3	OH	H	CH_3	H
$n-C_3H_7$	H	C_2H_5	OH	H	CH_3	H
$n-C_3H_7$	H	$n-C_3H_7$	OH	H	CH_3	H
$n-C_3H_7$	H	$n-C_4H_9$	OH	H	CH_3	H
$n-C_3H_7$	H	$i-C_3H_7$	OH	H	CH_3	H
$n-C_3H_7$	H	$i-C_4H_9$	OH	H	CH_3	H
$n-C_3H_7$	H	$n-C_5H_{11}$	OH	H	CH_3	H
$n-C_3H_7$	H	$n-C_6H_{13}$	OH	H	CH_3	H
$n-C_3H_7$	H	C_2H_4OH	OH	H	CH_3	H
$n-C_3H_7$	H	$-CH_2-\underset{\substack{ \\ OH}}{CH}-CH_3$	OH	H	CH_3	H



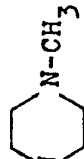
R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₃ H ₇	H	-CH ₂ -CH ₂ -CH ₂ OH	OH	H	CH ₃	H
n-C ₃ H ₇	H	-CH ₂ -CH ₂ -N(CH ₃) ₂	OH	H	CH ₃	H
n-C ₃ H ₇	H	-CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	OH	H	CH ₃	H
n-C ₃ H ₇	H	-CH ₂ -CH ₂ -N(C ₄ H ₉) ₂	OH	H	CH ₃	H
n-C ₃ H ₇	H	-CH ₂ -CH ₂ -CH ₂ -N(CH ₃) ₂	OH	H	CH ₃	H
n-C ₃ H ₇	H	-CH ₂ -CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	OH	H	CH ₃	H
n-C ₃ H ₇	H	-CH ₂ -CON(CH ₃) ₂	OH	H	CH ₃	H
n-C ₃ H ₇	H	-CH ₂ -CH ₂ -CON(CH ₃) ₂	OH	H	CH ₃	H
n-C ₃ H ₇	H	-CH ₂ -CON(C ₂ H ₅) ₂	OH	H	CH ₃	H
n-C ₃ H ₇	H	-CH ₂ -C ₆ H ₅	OH	H	CH ₃	H
n-C ₃ H ₇	H	-CH ₂ -CH ₂ -C ₆ H ₅	OH	H	CH ₃	H
n-C ₃ H ₇	H	-CH ₂ -CH ₂ -N 	OH	H	CH ₃	H




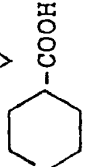
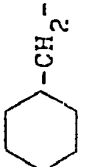
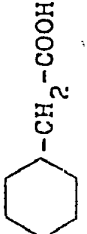
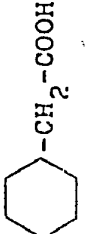

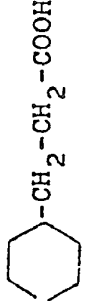
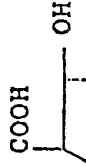
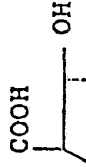
R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_3H_7$	H	$-CH_2-CH_2-N$ 	OH	H	CH_3	H
$n-C_3H_7$	H	$-CH_2-CH_2-N$ 	OH	H	CH_3	H
$n-C_3H_7$	H	$-CH_2-CH_2-N-CH_3$ 	OH	H	CH_3	H
$n-C_3H_7$	$n-C_5H_{11}$	$n-C_5H_{11}$	OH	H	CH_3	H
$n-C_3H_7$	$n-C_6H_{13}$	$n-C_6H_{13}$	OH	H	CH_3	H
$n-C_3H_7$	$i-C_3H_7$	$i-C_3H_7$	OH	H	CH_3	H
$n-C_3H_7$	$i-C_4H_9$	$i-C_4H_9$	OH	H	CH_3	H
$n-C_3H_7$	C_2H_4OH	C_2H_4OH	OH	H	CH_3	H
$n-C_3H_7$	$-CH_2-CH-CH_3$ $ $ OH	$-CH_2-CH-CH_3$ $ $ OH	OH	H	CH_3	H
$n-C_3H_7$	$-CH_3$	C_2H_4OH	OH	H	CH_3	H
$n-C_3H_7$	$-CH_2-CH_2-CH_2OH$	$-CH_2-CH_2-CH_2OH$	OH	H	CH_3	H

R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_3H_7$	$-CH_2-C_6H_5$	$-CH_2-C_6H_5$	OH	H	CH_3	H
$n-C_3H_7$	$-CH_2-CH_2-C_6H_5$	$-CH_2-CH_2-C_6H_5$	OH	H	CH_3	H
$n-C_3H_7$	H		OH	H	CH_3	H
$n-C_3H_7$	H		OH	H	CH_3	H
$n-C_3H_7$	H		OH	H	CH_3	H
$n-C_3H_7$			OH	H	CH_3	H
$n-C_3H_7$			OH	H	CH_3	H
$n-C_3H_7$			OH	H	CH_3	H
$n-C_3H_7$			OH	H	CH_3	H
$n-C_3H_7$			OH	H	CH_3	H


R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_4H_9$	H	H	OH	H	CH_3	H
$n-C_4H_9$	H	CH_3	OH	H	CH_3	H
$n-C_4H_9$	H	C_2H_5	OH	H	CH_3	H
$n-C_4H_9$	H	$n-C_3H_7$	OH	H	CH_3	H
$n-C_4H_9$	H	$n-C_4H_9$	OH	H	CH_3	H
$n-C_4H_9$	H	$i-C_3H_7$	OH	H	CH_3	H
$n-C_4H_9$	H	$i-C_4H_9$	OH	H	CH_3	H
$n-C_4H_9$	H	$n-C_5H_{11}$	OH	H	CH_3	H
$n-C_4H_9$	H	$n-C_6H_{13}$	OH	H	CH_3	H
$n-C_4H_9$	H	C_2H_4OH	OH	H	CH_3	H
$n-C_4H_9$	H	$-CH_2-\underset{OH}{\overset{ }{CH}}-CH_3$	OH	H	CH_3	H

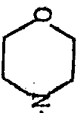

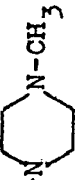
R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_4H_9$	H	$-CH_2-CH_2-CH_2OH$	OH	H	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-N(CH_3)_2$	OH	H	CH_3	
$n-C_4H_9$	H	$-CH_2-CH_2-N(C_2H_5)_2$	OH	H	CH_3	I
$n-C_4H_9$	H	$-CH_2-CH_2-N(C_4H_9)_2$	OH	H	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-CH_2-N(CH_3)_2$	OH	H	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-CH_2-N(C_2H_5)_2$	OH	H	CH_3	H
$n-C_4H_9$	H	$-CH_2-CON(CH_3)_2$	OH	H	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-CON(CH_3)_2$	OH	H	CH_3	H
$n-C_4H_9$	H	$-CH_2-CON(C_2H_5)_2$	OH	H	CH_3	H
$n-C_4H_9$	H	$-CH_2-C_6H_5$	OH	H	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-C_6H_5$	OH	H	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-N$ 	OH	H	CH_3	H

R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_4H_9$	H	$-CH_2-CH_2-N$ 	OH	H	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-N$ 	OH	H	CH_3	H
$n-C_4H_9$	H	$-CH_2-CH_2-N$ 	OH	H	CH_3	H
$n-C_4H_9$	$n-C_5H_{11}$	$n-C_5H_{11}$	OH	H	CH_3	H
$n-C_4H_9$	$n-C_6H_{13}$	$n-C_6H_{13}$	OH	H	CH_3	H
$n-C_4H_9$	$i-C_3H_7$	$i-C_3H_7$	OH	H	CH_3	H
$n-C_4H_9$	$i-C_4H_9$	$i-C_4H_9$	OH	H	CH_3	H
$n-C_4H_9$	C_2H_4OH	C_2H_4OH	OH	H	CH_3	H
$n-C_4H_9$	$-CH_2-\underset{OH}{\overset{OH}{ }}-CH-CH_3$	$-CH_2-\underset{OH}{\overset{OH}{ }}-CH-CH_3$	OH	H	CH_3	H
$n-C_4H_9$	$-CH_3$	C_2H_4OH	OH	H	CH_3	H
$n-C_4H_9$	$-CH_2-CH_2-CH_2OH$	$-CH_2-CH_2-CH_2OH$	OH	H	CH_3	H




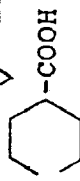
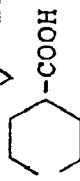
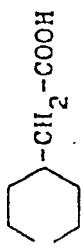
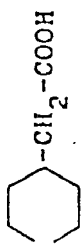
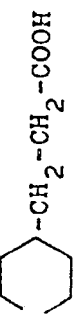
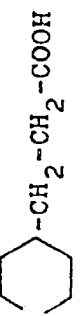

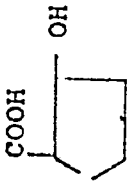
R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₄ H ₉	-CH ₂ -C ₆ H ₅	-CH ₂ -C ₆ H ₅	OH	H	CH ₃	H
n-C ₄ H ₉	-CH ₂ -CH ₂ -C ₆ H ₅	-CH ₂ -CH ₂ -C ₆ H ₅	OH	H	CH ₃	H
n-C ₄ H ₉	H		OH	H	CH ₃	H
n-C ₄ H ₉	H		OH	H	CH ₃	H
n-C ₄ H ₉	H		OH	H	CH ₃	H
n-C ₄ H ₉			OH	H	CH ₃	H
n-C ₄ H ₉			OH	H	CH ₃	H
n-C ₄ H ₉			OH	H	CH ₃	H
n-C ₄ H ₉			OH	H	CH ₃	H
n-C ₄ H ₉			OH	H	CH ₃	H

R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
$-(CH_2)_2-$	H	H	H	OH	H	CH ₃	H
$-(CH_2)_2-$	H	H	CH ₃	OH	H	CH ₃	H
$-(CH_2)_2-$	H	H	C ₂ H ₅	OH	H	CH ₃	F
$-(CH_2)_2-$	H	H	n-C ₃ H ₇	OH	H	CH ₃	H
$-(CH_2)_2-$	H	H	n-C ₄ H ₉	OH	H	CH ₃	H
$-(CH_2)_2-$	H	H	i-C ₃ H ₇	OH	H	CH ₃	H
$-(CH_2)_2-$	H	H	i-C ₄ H ₉	OH	H	CH ₃	H
$-(CH_2)_2-$	H	H	n-C ₅ H ₁₁	OH	H	CH ₃	H
$-(CH_2)_2-$	H	H	n-C ₆ H ₁₃	OH	H	CH ₃	H
$-(CH_2)_2-$	H	H	C ₂ H ₄ OH	OH	H	CH ₃	H
$-(CH_2)_2-$	H	H	$-(CH_2)-CH-CH_3$ OH	OH	H	CH ₃	H


R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₂ -	H	-CH ₂ -CH ₂ -CH ₂ OH	OH	H	CH ₃	H	
-(CH ₂) ₂ -	H	-CH ₂ -CH ₂ -N(CH ₃) ₂	OH	H	CH ₃	H	
-(CH ₂) ₂ -	H	-CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	OH	H	CH ₃	H	
-(CH ₂) ₂ -	H	-CH ₂ -CH ₂ -N(C ₄ H ₉) ₂	OH	H	CH ₃	H	
-(CH ₂) ₂ -	H	-CH ₂ -CH ₂ -CH ₂ -N(CH ₃) ₂	OH	H	CH ₃	H	
-(CH ₂) ₂ -	H	-CH ₂ -CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	OH	H	CH ₃	H	
-(CH ₂) ₂ -	H	-CH ₂ -CON(CH ₃) ₂	OH	H	CH ₃	H	
-(CH ₂) ₂ -	H	-CH ₂ -CH ₂ -CON(CH ₃) ₂	OH	H	CH ₃	H	
-(CH ₂) ₂ -	H	-CH ₂ -CON(C ₂ H ₅) ₂	OH	H	CH ₃	H	
-(CH ₂) ₂ -	H	-CH ₂ -C ₆ H ₅	OH	H	CH ₃	H	
-(CH ₂) ₂ -	H	-CH ₂ -CH ₂ -C ₆ H ₅	OH	H	CH ₃	H	
-(CH ₂) ₂ -	H	-CH ₂ -CH ₂ -N 	OH	H	CH ₃	H	

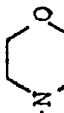
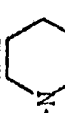
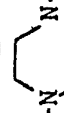
R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₂ -		H	-CH ₂ -CH ₂ -N 	OH	H	CH ₃	H
-(CH ₂) ₂ -		H	-CH ₂ -CH ₂ -N 	OH	H	CH ₃	H
-(CH ₂) ₂ -		H	-CH ₂ -CH ₂ -N  -CH ₃	OH	H	CH ₃	H
-(CH ₂) ₂ -		n-C ₅ H ₁₁	n-C ₅ H ₁₁	OH	H	CH ₃	H
-(CH ₂) ₂ -		n-C ₆ H ₁₃	n-C ₆ H ₁₃	OH	H	CH ₃	H
-(CH ₂) ₂ -		i-C ₃ H ₇	i-C ₃ H ₇	OH	H	CH ₃	H
-(CH ₂) ₂ -		i-C ₄ H ₉	i-C ₄ H ₉	OH	H	CH ₃	H
-(CH ₂) ₂ -		C ₂ H ₄ OH	C ₂ H ₄ OH	OH	H	CH ₃	H
-(CH ₂) ₂ -		-CH ₂ -CH-CH ₃ OH	-CH ₂ -CH-CH ₃ OH	OH	H	CH ₃	H
-(CH ₂) ₂ -		-CH ₃	C ₂ H ₄ OH	OH	H	CH ₃	H
-(CH ₂) ₂ -		-CH ₂ -CH ₂ -CH ₂ OH	-CH ₂ -CH ₂ -CH ₂ OH	OH	H	CH ₃	H

1 3 5 1

R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
$-(\text{CH}_2)_2-$	$-(\text{CH}_2)_2-$	$-\text{CH}_2-\text{C}_6\text{H}_5$	$-\text{CH}_2-\text{C}_6\text{H}_5$	OH	H	CH_3	H
$-(\text{CH}_2)_2-$	$-(\text{CH}_2)_2-$	$-\text{CH}_2-\text{CH}_2-\text{C}_6\text{H}_5$	$-\text{CH}_2-\text{CH}_2-\text{C}_6\text{H}_5$	OH	H	CH_3	H
$-(\text{CH}_2)_2-$	$-(\text{CH}_2)_2-$	H		OH	H	CH_3	H
$-(\text{CH}_2)_2-$	$-(\text{CH}_2)_2-$	H		OH	H	CH_3	H
$-(\text{CH}_2)_2-$	$-(\text{CH}_2)_2-$	H		OH	H	CH_3	H
$-(\text{CH}_2)_2-$	$-(\text{CH}_2)_2-$			OH	H	CH_3	H
$-(\text{CH}_2)_2-$	$-(\text{CH}_2)_2-$			OH	H	CH_3	H
$-(\text{CH}_2)_2-$	$-(\text{CH}_2)_2-$			OH	H	CH_3	H
$-(\text{CH}_2)_2-$	$-(\text{CH}_2)_2-$			OH	H	CH_3	H
$-(\text{CH}_2)_2-$	$-(\text{CH}_2)_2-$			OH	H	CH_3	H

R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
$-(CH_2)_3-$	H	H	H	OH	H	CH ₃	H
$-(CH_2)_3-$	H	H	CH ₃	OH	H	CH ₃	H
$-(CH_2)_3-$	H	H	C ₂ H ₅	OH	H	CH ₃	H
$-(CH_2)_3-$	H	H	n-C ₃ H ₇	OH	H	CH ₃	H
$-(CH_2)_3-$	H	H	n-C ₄ H ₉	OH	H	CH ₃	H
$-(CH_2)_3-$	H	H	i-C ₃ H ₇	OH	H	CH ₃	H
$-(CH_2)_3-$	H	H	i-C ₄ H ₉	OH	H	CH ₃	H
$-(CH_2)_3-$	H	H	n-C ₅ H ₁₁	OH	H	CH ₃	H
$-(CH_2)_3-$	H	H	n-C ₆ H ₁₃	OH	H	CH ₃	H
$-(CH_2)_3-$	H	H	C ₂ H ₄ OH	OH	H	CH ₃	H
$-(CH_2)_3-$	H	H	$-CH_2-\underset{\substack{ \\ OH}}{CH}-CH_3$	OH	H	CH ₃	H

R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -CH ₂ OH	OH	H	CH ₃	H
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -N(CH ₃) ₂	OH	H	CH ₃	H
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	OH	H	CH ₃	H
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -N(C ₄ H ₉) ₂	OH	H	CH ₃	H
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -CH ₂ -N(CH ₃) ₂	OH	H	CH ₃	H
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	OH	H	CH ₃	H
-(CH ₂) ₃ -	H	H	-CH ₂ -CON(CH ₃) ₂	OH	H	CH ₃	H
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -CON(CH ₃) ₂	OH	H	CH ₃	H
-(CH ₂) ₃ -	H	H	-CH ₂ -CON(C ₂ H ₅) ₂	OH	H	CH ₃	H
-(CH ₂) ₃ -	H	H	-CH ₂ -C ₆ H ₅	OH	H	CH ₃	H
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -C ₆ H ₅	OH	H	CH ₃	H
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -N 	OH	H	CH ₃	H

R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₃ -	H	-CH ₂ -CH ₂ -N 	OH	H	CH ₃	H	
-(CH ₂) ₃ -	H	-CH ₂ -CH ₂ -N 	OH	H	CH ₃	H	
-(CH ₂) ₃ -	H	-CH ₂ -CH ₂ -N  -CH ₃	OH	H	CH ₃	H	
-(CH ₂) ₃ -	n-C ₅ H ₁₁	n-C ₅ H ₁₁	OH	H	CH ₃	H	
-(CH ₂) ₃ -	n-C ₆ H ₁₃	n-C ₆ H ₁₃	OH	H	CH ₃	H	
-(CH ₂) ₃ -	i-C ₃ H ₇	i-C ₃ H ₇	OH	H	CH ₃	H	
-(CH ₂) ₃ -	i-C ₄ H ₉	i-C ₄ H ₉	OH	H	CH ₃	H	
-(CH ₂) ₃ -	C ₂ H ₄ OH	C ₂ H ₄ OH	OH	H	CH ₃	H	
-(CH ₂) ₃ -	-CH ₂ -CH-CH ₃ OH	-CH ₂ -CH-CH ₃ OH	OH	H	CH ₃	H	
-(CH ₂) ₃ -	-CH ₃	C ₂ H ₄ OH	OH	H	CH ₃	H	
-(CH ₂) ₃ -	-CH ₂ -CH ₂ -CH ₂ OH	-CH ₂ -CH ₂ -CH ₂ OH	OH	H	CH ₃	H	




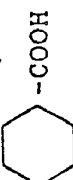
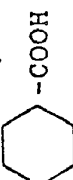
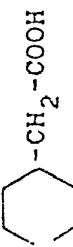
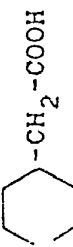
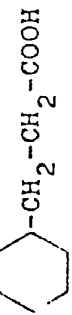
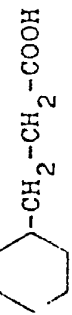


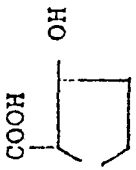
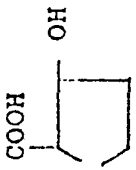





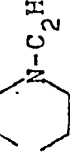
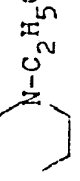


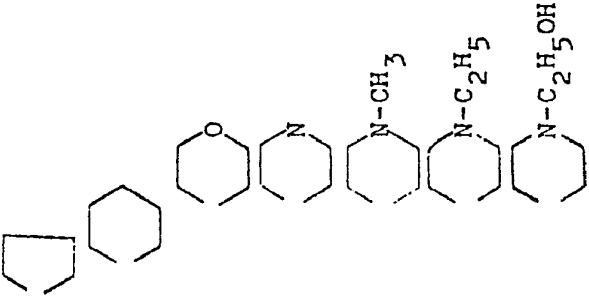



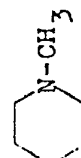
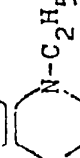
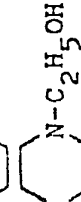
R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₃ -	-(CH ₂) ₃ -	-CH ₂ -C ₆ H ₅	-CH ₂ -C ₆ H ₅	OH	H	CH ₃	H
-(CH ₂) ₃ -	-(CH ₂) ₃ -	-CH ₂ -CH ₂ -C ₆ H ₅	-CH ₂ -CH ₂ -C ₆ H ₅	OH	H	CH ₃	H
-(CH ₂) ₃ -	-(CH ₂) ₃ -	H		OH	H	CH ₃	H
-(CH ₂) ₃ -	-(CH ₂) ₃ -	H		OH	H	CH ₃	H
-(CH ₂) ₃ -	-(CH ₂) ₃ -	H		OH	H	CH ₃	H
-(CH ₂) ₃ -	-(CH ₂) ₃ -			OH	H	CH ₃	H
-(CH ₂) ₃ -	-(CH ₂) ₃ -			OH	H	CH ₃	H
-(CH ₂) ₃ -	-(CH ₂) ₃ -			OH	H	CH ₃	H
-(CH ₂) ₃ -	-(CH ₂) ₃ -			OH	H	CH ₃	H
-(CH ₂) ₃ -	-(CH ₂) ₃ -			OH	H	CH ₃	H

TABELLE V A.








R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
CH_3	CH_3	CH_3	H	OH	H	Cl
CH_3	CH_3	C_2H_5	H	OH	H	Cl
CH_3	C_2H_5	C_2H_5	H	OH	H	Cl
CH_3	$n-C_3H_7$	$n-C_3H_7$	H	OH	H	Cl
CH_3	$n-C_4H_9$	$n-C_4H_9$	H	OH	H	Cl
CH_3	H	CH_2-COOH	H	OH	H	Cl
CH_3	H	$CH_2-COOC_2H_5$	H	OH	H	Cl
CH_3	H	$CH_3-CH-COOH$	H	OH	H	Cl
CH_3	H	$CH_3-CH-COOC_2H_5$	H	OH	H	Cl
CH_3	H	$-CH_2-CH_2-COOH$	H	OH	H	Cl
CH_3	H	$-CH_2-CH_2-COOC_2H_5$	H	OH	H	Cl

R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
CH_3	H	$-(CH_2)_4-$	H	OH	H	Cl
		$-CH-COOH$ $ $ NH_2				
CH_3			H	OH	H	Cl
CH_3			H	OH	H	Cl
CH_3			H	OH	H	Cl
CH_3			H	OH	H	Cl
CH_3			H	OH	H	Cl
CH_3			H	OH	H	Cl
CH_3			H	OH	H	Cl





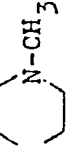
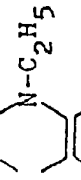
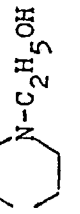
R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
C_2H_5	CH_3	CH_3	H	OH	H	Cl
C_2H_5	CH_3	C_2H_5	H	OH	H	Cl
C_2H_5	C_2H_5	C_2H_5	H	OH	H	Cl
C_2H_5	$n-C_3H_7$	$n-C_3H_7$	H	OH	H	Cl
C_2H_5	$n-C_4H_9$	$n-C_4H_9$	H	OH	H	Cl
C_2H_5	H	CH_2-COOH	H	OH	H	Cl
C_2H_5	H	$CH_2-COOC_2H_5$	H	OH	H	Cl
C_2H_5	H	$CH_3-CH-COOH$ 	H	OH	H	Cl
C_2H_5	H	$CH_3-CH-COOC_2H_5$ 	H	OH	H	Cl
C_2H_5	H	$-CH_2-CH_2-COOH$	H	OH	H	Cl
C_2H_5	H	$-CH_2-CH_2-COOC_2H_5$	H	OH	H	Cl

R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
C ₂ H ₅	H	$-(\text{CH}_2)_4-\text{CH}(\text{NH}_2)-\text{COOH}$	H	OH	H	Cl
C ₂ H ₅			H	OH	H	Cl
C ₂ H ₅			H	OH	H	Cl
C ₂ H ₅			H	OH	H	Cl
C ₂ H ₅			H	OH	H	Cl
C ₂ H ₅			H	OH	H	Cl
C ₂ H ₅			H	OH	H	Cl
C ₂ H ₅			H	OH	H	Cl
C ₂ H ₅			H	OH	H	Cl

R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₃ H ₇	CH ₃	CH ₃	H	OH	H	Cl
n-C ₃ H ₇	CH ₃	C ₂ H ₅	H	OH	H	Cl
n-C ₃ H ₇	C ₂ H ₅	C ₂ H ₅	H	OH	H	Cl
n-C ₃ H ₇	n-C ₃ H ₇	n-C ₃ H ₇	H	OH	H	Cl
n-C ₃ H ₇	n-C ₄ H ₉	n-C ₄ H ₉	H	OH	H	Cl
n-C ₃ H ₇	H	CH ₂ -COOH	H	OH	H	Cl
n-C ₃ H ₇	H	CH ₂ -COOC ₂ H ₅	H	OH	H	Cl
n-C ₃ H ₇	H	CH ₃ -CH-COOH 	H	OH	H	Cl
n-C ₃ H ₇	H	CH ₃ -CH-COOC ₂ H ₅ 	H	OH	H	Cl
n-C ₃ H ₇	H	-CH ₂ -CH ₂ -COOH	H	OH	H	Cl
n-C ₃ H ₇	H	-CH ₂ -CH ₂ -COOC ₂ H ₅	H	OH	H	Cl


R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₃ H ₇	H	$-(\text{CH}_2)_4-\text{CH}-\text{COOH}$ NH ₂	H	OH	H	Cl
n-C ₃ H ₇			H	OH	H	Cl
n-C ₃ H ₇			H	OH	H	Cl
n-C ₃ H ₇			H	OH	H	Cl
n-C ₃ H ₇			H	OH	H	Cl
n-C ₃ H ₇			H	OH	H	Cl
n-C ₃ H ₇			H	OH	H	Cl
n-C ₃ H ₇			H	OH	H	Cl

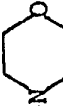
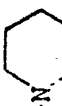
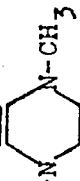
R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₄ H ₉	CH ₃	CH ₃	H	OH	H	Cl
n-C ₄ H ₉	CH ₃	C ₂ H ₅	H	OH	H	Cl
n-C ₄ H ₉	C ₂ H ₅	C ₂ H ₅	H	OH	H	Cl
n-C ₄ H ₉	n-C ₃ H ₇	n-C ₃ H ₇	H	OH	H	Cl
n-C ₄ H ₉	n-C ₄ H ₉	n-C ₄ H ₉	H	OH	H	Cl
n-C ₄ H ₉	H	CH ₂ -COOH	H	OH	H	Cl
n-C ₄ H ₉	H	CH ₂ -COOC ₂ H ₅	H	OH	H	Cl
n-C ₄ H ₉	H	CH ₃ -CH-COOH 	H	OH	H	Cl
n-C ₄ H ₉	H	CH ₃ -CH-COOC ₂ H ₅ 	H	OH	H	Cl
n-C ₄ H ₉	H	-CH ₂ -CH ₂ -COOH	H	OH	H	Cl
n-C ₄ H ₉	H	-CH ₂ -CH ₂ -COOC ₂ H ₅	H	OH	H	Cl




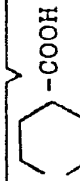
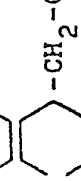
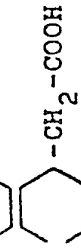
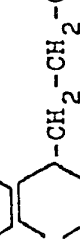

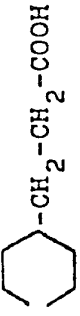

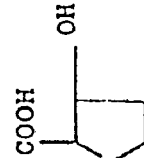
R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₄ H ₉	H	-(CH ₂) ₄ - $\begin{array}{c} \text{CH-COOH} \\ \\ \text{NH}_2 \end{array}$	H	OH	H	Cl
n-C ₄ H ₉			H	OH	H	Cl
n-C ₄ H ₉			H	OH	H	Cl
n-C ₄ H ₉			H	OH	H	Cl
n-C ₄ H ₉			H	OH	H	Cl
n-C ₄ H ₉			H	OH	H	Cl
n-C ₄ H ₉			H	OH	H	Cl
n-C ₄ H ₉			H	OH	H	Cl

T A B I A V B.


R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
CH_3	H	H	H	OH	H	Cl
CH_3	H	CH_3	H	OH	H	Cl
CH_3	H	C_2H_5	H	OH	H	Cl
CH_3	H	$n-C_3H_7$	H	OH	H	Cl
CH_3	H	$n-C_4H_9$	H	OH	H	Cl
CH_3	H	$i-C_3H_7$	H	OH	H	Cl
CH_3	H	$i-C_4H_9$	H	OH	H	Cl
CH_3	H	$n-C_5H_{11}$	H	OH	H	Cl
CH_3	H	$n-C_6H_{13}$	H	OH	H	Cl
CH_3	H	C_2H_4OH	H	OH	H	Cl
CH_3	H	$-CH_2-\underset{OH}{\underset{ }{CH}}-CH_3$	H	OH	H	Cl

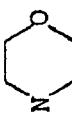

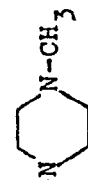
R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
CH_3	H	$-CH_2-CH_2-CH_2-OH$	H	OH	H	Cl
CH_3	H	$-CH_2-CH_2-N(CH_3)_2$	H	OH	H	Cl
CH_3	H	$-CH_2-CH_2-N(C_2H_5)_2$	H	OH	H	C
CH_3	H	$-CH_2-CH_2-N(C_4H_9)_2$	H	OH	H	C:
CH_3	H	$-CH_2-CH_2-CH_2-N(CH_3)_2$	H	OH	H	Cl
CH_3	H	$-CH_2-CH_2-CH_2-N(C_2H_5)_2$	H	OH	H	Cl
CH_3	H	$-CH_2-CON(CH_3)_2$	H	OH	H	Cl
CH_3	H	$-CH_2-CH_2-CON(CH_3)_2$	H	OH	H	Cl
CH_3	H	$-CH_2-CON(C_2H_5)_2$	H	OH	H	Cl
CH_3	H	$-CH_2-C_6H_5$	H	OH	H	Cl
CH_3	H	$-CH_2-CH_2-C_6H_5$	H	OH	H	Cl
CH_3	H	$-CH_2-CH_2-N$ 	H	OH	H	Cl




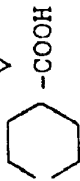
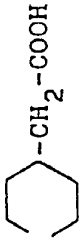
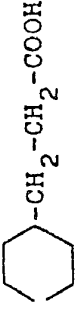
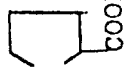
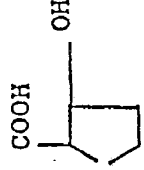

R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
CH ₃	H	-CH ₂ -CH ₂ -N 	H	OH	H	Cl
CH ₃	H	-CH ₂ -CH ₂ -N 	H	OH	H	Cl
CH ₃	H	-CH ₂ -CH ₂ -N  -CH ₃	H	OH	H	C
CH ₃	n-C ₅ H ₁₁	n-C ₅ H ₁₁	H	OH	H	Cl
CH ₃	n-C ₆ H ₁₃	n-C ₆ H ₁₃	H	OH	H	Cl
CH ₃	i-C ₃ H ₇	i-C ₃ H ₇	H	OH	H	Cl
CH ₃	i-C ₄ H ₉	i-C ₄ H ₉	H	OH	H	Cl
CH ₃	C ₂ H ₄ OH	C ₂ H ₄ OH	H	OH	H	Cl
CH ₃	-CH ₂ -CH-CH ₃ OH	-CH ₂ -CH-CH ₃ OH	H	OH	H	Cl
CH ₃	-CH ₃	C ₂ H ₄ OH	H	OH	H	Cl
CH ₃	-CH ₂ -CH ₂ -CH ₂ OH	-CH ₂ -CH ₂ -CH ₂ OH	H	OH	H	Cl

R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
CH ₃	-CH ₂ -C ₆ H ₅	-CH ₂ -C ₆ H ₅	H	OH	H	Cl
CH ₃	-CH ₂ -CH ₂ -C ₆ H ₅	-CH ₂ -CH ₂ -C ₆ H ₅	H	OH	H	Cl
CH ₃	H		H	OH	H	C
CH ₃	H		H	OH	H	Cl
CH ₃	H		H	OH	H	Cl
CH ₃			H	OH	H	Cl
CH ₃			H	OH	H	Cl
CH ₃			H	OH	H	Cl
CH ₃			H	OH	H	Cl
CH ₃			H	OH	H	Cl


R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
C_2H_5	H	H	H	OH	H	Cl
C_2H_5	H	CH_3	H	OH	H	Cl
C_2H_5	H	C_2H_5	H	OH	H	Cl
C_2H_5	H	$n-C_3H_7$	H	OH	H	Cl
C_2H_5	H	$n-C_4H_9$	H	OH	H	Cl
C_2H_5	H	$i-C_3H_7$	H	OH	H	Cl
C_2H_5	H	$i-C_4H_9$	H	OH	H	Cl
C_2H_5	H	$n-C_5H_{11}$	H	OH	H	Cl
C_2H_5	H	$n-C_6H_{13}$	H	OH	H	Cl
C_2H_5	H	C_2H_4OH	H	OH	H	Cl
C_2H_5	H	$-CH_2-\underset{OH}{\overset{ }{CH}}-CH_3$	H	OH	H	Cl



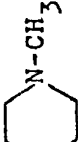
R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
C_2H_5	H	$-CH_2-CH_2-CH_2-OH$	H	OH	H	Cl
C_2H_5	H	$-CH_2-CH_2-CH_2-N(CH_3)_2$	H	OH	H	Cl
C_2H_5	H	$-CH_2-CH_2-CH_2-N(C_2H_5)_2$	H	OH	H	Cl
C_2H_5	H	$-CH_2-CH_2-CH_2-N(C_4H_9)_2$	H	OH	H	Cl
C_2H_5	H	$-CH_2-CH_2-CH_2-N(CH_3)_2$	H	OH	H	Cl
C_2H_5	H	$-CH_2-CH_2-CH_2-N(C_2H_5)_2$	H	OH	H	Cl
C_2H_5	H	$-CH_2-CH_2-CON(CH_3)_2$	H	OH	H	Cl
C_2H_5	H	$-CH_2-CH_2-CON(CH_3)_2$	H	OH	H	Cl
C_2H_5	H	$-CH_2-CON(C_2H_5)_2$	H	OH	H	Cl
C_2H_5	H	$-CH_2-C_6H_5$	H	OH	H	Cl
C_2H_5	H	$-CH_2-CH_2-C_6H_5$	H	OH	H	Cl
C_2H_5	H	$-CH_2-CH_2-N$ 	H	OH	H	Cl




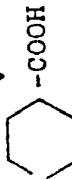
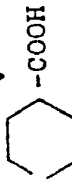


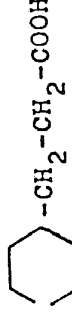
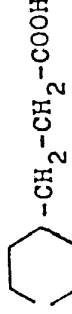
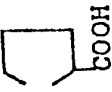
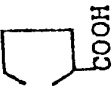
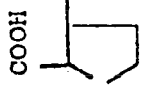
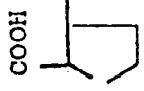
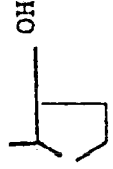
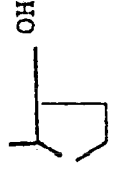
R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
C ₂ H ₅	H	-CH ₂ -CH ₂ -N 	H	OH	H	Cl
C ₂ H ₅	H	-CH ₂ -CH ₂ -N 	H	OH	H	Cl
C ₂ H ₅	H	-CH ₂ -CH ₂ -N 	H	OH	H	Cl
C ₂ H ₅	n-C ₅ H ₁₁	n-C ₅ H ₁₁	H	OH	H	Cl
C ₂ H ₅	n-C ₆ H ₁₃	n-C ₆ H ₁₃	H	OH	H	Cl
C ₂ H ₅	i-C ₃ H ₇	i-C ₃ H ₇	H	OH	H	Cl
C ₂ H ₅	i-C ₄ H ₉	i-C ₄ H ₉	H	OH	H	Cl
C ₂ H ₅	C ₂ H ₄ OH	C ₂ H ₄ OH	H	OH	H	Cl
C ₂ H ₅	-CH ₂ -CH-CH ₃ OH	-CH ₂ -CH-CH ₃ OH	H	OH	H	Cl
C ₂ H ₅	-CH ₃	C ₂ H ₄ OH	H	OH	H	Cl
C ₂ H ₅	-CH ₂ -CH ₂ -CH ₂ OH	-CH ₂ -CH ₂ -CH ₂ OH	H	OH	H	Cl

R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
C_2H_5	$-CH_2-C_6H_5$	$-CH_2-C_6H_5$	H	OH	H	Cl
C_2H_5	$-CH_2-CH_2-C_6H_5$	$-CH_2-CH_2-C_6H_5$	H	OH	H	Cl
C_2H_5	H		H	OH	H	Cl
C_2H_5	H		H	OH	H	Cl
C_2H_5	H		H	OH	H	Cl
C_2H_5		$-COOH$	H	OH	H	Cl
C_2H_5		$-CH_2-COOH$	H	OH	H	Cl
C_2H_5		$-CH_2-CH_2-COOH$	H	OH	H	Cl
C_2H_5		$-COOH$	H	OH	H	Cl
C_2H_5			H	OH	H	Cl
C_2H_5			H	OH	H	Cl


R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_3H_7$	H	H	H	OH	H	Cl
$n-C_3H_7$	H	CH_3	H	OH	H	Cl
$n-C_3H_7$	H	C_2H_5	H	OH	H	Cl
$n-C_3H_7$	H	$n-C_3H_7$	H	OH	H	Cl
$n-C_3H_7$	H	$n-C_4H_9$	H	OH	H	Cl
$n-C_3H_7$	H	$i-C_3H_7$	H	OH	H	Cl
$n-C_3H_7$	H	$i-C_4H_9$	H	OH	H	Cl
$n-C_3H_7$	H	$n-C_5H_{11}$	H	OH	H	Cl
$n-C_3H_7$	H	$n-C_6H_{13}$	H	OH	H	Cl
$n-C_3H_7$	H	C_2H_4OH	H	OH	H	Cl
$n-C_3H_7$	H	$-CH_2-\underset{OH}{\underset{ }{CH}}-CH_3$	H	OH	H	Cl



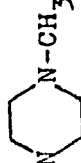
R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₃ H ₇	H	-CH ₂ -CH ₂ -CH ₂ -OH	H	OH	H	Cl
n-C ₃ H ₇	H	-CH ₂ -CH ₂ -N(CH ₃) ₂	H	OH	H	Cl
n-C ₃ H ₇	H	-CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	H	OH	H	Cl
n-C ₃ H ₇	H	-CH ₂ -CH ₂ -N(C ₄ H ₉) ₂	H	OH	H	Cl
n-C ₃ H ₇	H	-CH ₂ -CH ₂ -CH ₂ -N(CH ₃) ₂	H	OH	H	Cl
n-C ₃ H ₇	H	-CH ₂ -CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	H	OH	H	Cl
n-C ₃ H ₇	H	-CH ₂ -CON(CH ₃) ₂	H	OH	H	Cl
n-C ₃ H ₇	H	-CH ₂ -CH ₂ -CON(CH ₃) ₂	H	OH	H	Cl
n-C ₃ H ₇	H	-CH ₂ -CON(C ₂ H ₅) ₂	H	OH	H	Cl
n-C ₃ H ₇	H	-CH ₂ -C ₆ H ₅	H	OH	H	Cl
n-C ₃ H ₇	H	-CH ₂ -CH ₂ -C ₆ H ₅	H	OH	H	Cl
n-C ₃ H ₇	H	-CH ₂ -CH ₂ -N 	H	OH	H	Cl




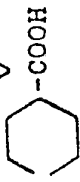
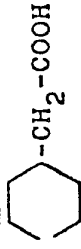
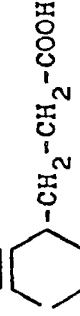


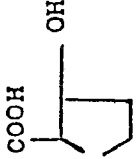
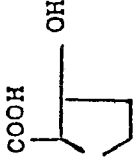
R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_3H_7$	H	$-CH_2-CH_2-N$ 	H	OH	H	Cl
$n-C_3H_7$	H	$-CH_2-CH_2-N$ 	H	OH	H	Cl
$n-C_3H_7$	H	$-CH_2-CH_2-N-CH_3$ 	H	OH	H	Cl
$n-C_3H_7$	$n-C_5H_{11}$	$n-C_5H_{11}$	H	OH	H	Cl
$n-C_3H_7$	$n-C_6H_{13}$	$n-C_6H_{13}$	H	OH	H	Cl
$n-C_3H_7$	$i-C_3H_7$	$i-C_3H_7$	H	OH	H	Cl
$n-C_3H_7$	$i-C_4H_9$	$i-C_4H_9$	H	OH	H	Cl
$n-C_3H_7$	C_2H_4OH	C_2H_4OH	H	OH	H	Cl
$n-C_3H_7$	$-CH_2-\underset{OH}{\underset{ }{CH}}-CH_3$	$-CH_2-\underset{OH}{\underset{ }{CH}}-CH_3$	H	OH	H	Cl
$n-C_3H_7$	$-CH_3$	C_2H_4OH	H	OH	H	Cl
$n-C_3H_7$	$-CH_2-CH_2-CH_2OH$	$-CH_2-CH_2-CH_2OH$	H	OH	H	Cl

R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_3H_7$	$-CH_2-C_6H_5$	$-CH_2-C_6H_5$	H	OH	H	Cl
$n-C_3H_7$	$-CH_2-CH_2-C_6H_5$	$-CH_2-CH_2-C_6H_5$	H	OH	H	Cl
$n-C_3H_7$	H		H	OH	H	Cl
$n-C_3H_7$	H		H	OH	H	Cl
$n-C_3H_7$	H		H	OH	H	Cl
$n-C_3H_7$			H	OH	H	Cl
$n-C_3H_7$			H	OH	H	Cl
$n-C_3H_7$			H	OH	H	Cl
$n-C_3H_7$			H	OH	H	Cl
$n-C_3H_7$			H	OH	H	Cl
$n-C_3H_7$			H	OH	H	Cl


R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_4H_9$	H	H	H	OH	H	Cl
$n-C_4H_9$	H	CH ₃	H	OH	H	Cl
$n-C_4H_9$	H	C ₂ H ₅	H	OH	H	Cl
$n-C_4H_9$	H	$n-C_3H_7$	H	OH	H	Cl
$n-C_4H_9$	H	$n-C_4H_9$	H	OH	H	Cl
$n-C_4H_9$	H	$i-C_3H_7$	H	OH	H	Cl
$n-C_4H_9$	H	$i-C_4H_9$	H	OH	H	Cl
$n-C_4H_9$	H	$n-C_5H_{11}$	H	OH	H	Cl
$n-C_4H_9$	H	$n-C_6H_{13}$	H	OH	H	Cl
$n-C_4H_9$	H	C ₂ H ₄ OH	H	OH	H	Cl
$n-C_4H_9$	H	$-CH_2-\underset{OH}{\overset{ }{CH}}-CH_3$	H	OH	H	Cl

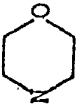


R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₄ H ₉	H	-CH ₂ -CH ₂ -CH ₂ -CH ₂ -OH	H	OH	H	Cl
n-C ₄ H ₉	H	-CH ₂ -CH ₂ -CH ₂ -N(CH ₃) ₂	H	OH	H	Cl
n-C ₄ H ₉	H	-CH ₂ -CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	H	OH	H	Cl
n-C ₄ H ₉	H	-CH ₂ -CH ₂ -CH ₂ -N(C ₄ H ₉) ₂	H	OH	H	Cl
n-C ₄ H ₉	H	-CH ₂ -CH ₂ -CH ₂ -N(CH ₃) ₂	H	OH	H	Cl
n-C ₄ H ₉	H	-CH ₂ -CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	H	OH	H	Cl
n-C ₄ H ₉	H	-CH ₂ -CON(CH ₃) ₂	H	OH	H	Cl
n-C ₄ H ₉	H	-CH ₂ -CH ₂ -CON(CH ₃) ₂	H	OH	H	Cl
n-C ₄ H ₉	H	-CH ₂ -CON(C ₂ H ₅) ₂	H	OH	H	Cl
n-C ₄ H ₉	H	-CH ₂ -C ₆ H ₅	H	OH	H	Cl
n-C ₄ H ₉	H	-CH ₂ -CH ₂ -C ₆ H ₅	H	OH	H	Cl
n-C ₄ H ₉	H	-CH ₂ -CH ₂ -N 	H	OH	H	Cl




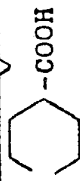
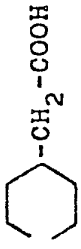
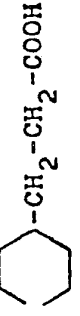
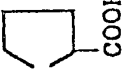
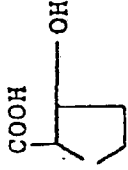
R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₄ H ₉	H	-CH ₂ -CH ₂ -N 	H	OH	H	Cl
n-C ₄ H ₉	H	-CH ₂ -CH ₂ -N 	H	OH	H	Cl
n-C ₄ H ₉	H	-CH ₂ -CH ₂ -N  -CH ₃	H	OH	H	Cl
n-C ₄ H ₉	n-C ₅ H ₁₁	n-C ₅ H ₁₁	H	OH	H	Cl
n-C ₄ H ₉	n-C ₆ H ₁₃	n-C ₆ H ₁₃	H	OH	H	Cl
n-C ₄ H ₉	i-C ₃ H ₇	i-C ₃ H ₇	H	OH	H	Cl
n-C ₄ H ₉	i-C ₄ H ₉	i-C ₄ H ₉	H	OH	H	Cl
n-C ₄ H ₉	C ₂ H ₄ OH	C ₂ H ₄ OH	H	OH	H	Cl
n-C ₄ H ₉	-CH ₂ -CH-CH ₃ OH	-CH ₂ -CH-CH ₃ OH	H	OH	H	Cl
n-C ₄ H ₉	-CH ₃	C ₂ H ₄ OH	H	OH	H	Cl
n-C ₄ H ₉	-CH ₂ -CH ₂ -CH ₂ -CH ₂ -OH	-CH ₂ -CH ₂ -CH ₂ -CH ₂ -OH	H	OH	H	Cl

R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_4H_9$	$-CH_2-C_6H_5$	$-CH_2-C_6H_5$	H	OH	H	Cl
$n-C_4H_9$	$-CH_2-CH_2-C_6H_5$	$-CH_2-CH_2-C_6H_5$	H	OH	H	Cl
$n-C_4H_9$	H		H	OH	H	Cl
$n-C_4H_9$	H		H	OH	H	Cl
$n-C_4H_9$	H		H	OH	H	Cl
$n-C_4H_9$		$-COOH$	H	OH	H	Cl
$n-C_4H_9$		$-CH_2-COOH$	H	OH	H	Cl
$n-C_4H_9$		$-CH_2-CH_2-COOH$	H	OH	H	Cl
$n-C_4H_9$			H	OH	H	Cl
$n-C_4H_9$			H	OH	H	Cl
$n-C_4H_9$			H	OH	H	Cl


R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₂ -	H	H	H	H	OH	H	Cl
-(CH ₂) ₂ -	H	H	CH ₃	H	OH	H	Cl
-(CH ₂) ₂ -	H	H	C ₂ H ₅	H	OH	H	Cl
-(CH ₂) ₂ -	H	H	n-C ₃ H ₇	H	OH	H	Cl
-(CH ₂) ₂ -	H	H	n-C ₄ H ₉	H	OH	H	Cl
-(CH ₂) ₂ -	H	H	i-C ₃ H ₇	H	OH	H	Cl
-(CH ₂) ₂ -	H	H	i-C ₄ H ₉	H	OH	H	Cl
-(CH ₂) ₂ -	H	H	n-C ₅ H ₁₁	H	OH	H	Cl
-(CH ₂) ₂ -	H	H	n-C ₆ H ₁₃	H	OH	H	Cl
-(CH ₂) ₂ -	H	H	C ₂ H ₄ OH	H	OH	H	Cl
-(CH ₂) ₂ -	H	H	-CH ₂ -CH-CH ₃ OH	H	OH	H	Cl

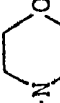
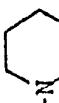
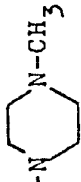
R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₂ -	H	H	-CH ₂ -CH ₂ -CH ₂ OH	H	OH	H	Cl
-(CH ₂) ₂ -	H	H	-CH ₂ -CH ₂ -N(CH ₃) ₂	H	OH	H	Cl
-(CH ₂) ₂ -	H	H	-CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	H	OH	H	Cl
-(CH ₂) ₂ -	H	H	-CH ₂ -CH ₂ -N(C ₄ H ₉) ₂	H	OH	H	Cl
-(CH ₂) ₂ -	H	H	-CH ₂ -CH ₂ -CH ₂ -N(CH ₃) ₂	H	OH	H	Cl
-(CH ₂) ₂ -	H	H	-CH ₂ -CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	H	OH	H	Cl
-(CH ₂) ₂ -	H	H	-CH ₂ -CON(CH ₃) ₂	H	OH	H	Cl
-(CH ₂) ₂ -	H	H	-CH ₂ -CH ₂ -CON(CH ₃) ₂	H	OH	H	Cl
-(CH ₂) ₂ -	H	H	-CH ₂ -CON(C ₂ H ₅) ₂	H	OH	H	Cl
-(CH ₂) ₂ -	H	H	-CH ₂ -C ₆ H ₅	H	OH	H	Cl
-(CH ₂) ₂ -	H	H	-CH ₂ -CH ₂ -C ₆ H ₅	H	OH	H	Cl
-(CH ₂) ₂ -	H	H	-CH ₂ -CH ₂ -N 	H	OH	H	Cl




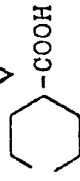
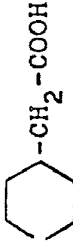
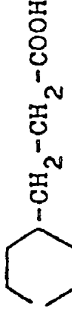

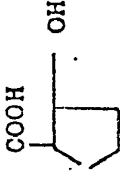
R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₂ -		H	-CH ₂ -CH ₂ -N 	H	OH	H	Cl
-(CH ₂) ₂ -		H	-CH ₂ -CH ₂ -N 	H	OH	H	Cl
-(CH ₂) ₂ -		H	-CH ₂ -CH ₂ -N  -CH ₃	H	OH	H	Cl
-(CH ₂) ₂ -		n-C ₅ H ₁₁	n-C ₅ H ₁₁	H	OH	H	Cl
-(CH ₂) ₂ -		n-C ₆ H ₁₃	n-C ₆ H ₁₃	H	OH	H	Cl
-(CH ₂) ₂ -		i-C ₃ H ₇	i-C ₃ H ₇	H	OH	H	Cl
-(CH ₂) ₂ -		i-C ₄ H ₉	i-C ₄ H ₉	H	OH	H	Cl
-(CH ₂) ₂ -		C ₂ H ₄ OH	C ₂ H ₄ OH	H	OH	H	Cl
-(CH ₂) ₂ -		-CH ₂ -CH-CH ₃ OH	-CH ₂ -CH-CH ₃ OH	H	OH	H	Cl
-(CH ₂) ₂ -		-CH ₃	C ₂ H ₄ OH	H	OH	H	Cl
-(CH ₂) ₂ -		-CH ₂ -CH ₂ -CH ₂ OH	-CH ₂ -CH ₂ -CH ₂ OH	H	OH	H	Cl

R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₂ -		-CH ₂ -C ₆ H ₅	-CH ₂ -C ₆ H ₅	H	OH	H	Cl
-(CH ₂) ₂ -		-CH ₂ -CH ₂ -C ₆ H ₅	-CH ₂ -CH ₂ -C ₆ H ₅	H	OH	H	Cl
-(CH ₂) ₂ -		H		H	OH	H	Cl
-(CH ₂) ₂ -		H		H	OH	H	Cl
-(CH ₂) ₂ -		H		H	OH	H	Cl
-(CH ₂) ₂ -				H	OH	H	Cl
-(CH ₂) ₂ -				H	OH	H	Cl
-(CH ₂) ₂ -				H	OH	H	Cl
-(CH ₂) ₂ -				H	OH	H	Cl
-(CH ₂) ₂ -				H	OH	H	Cl

R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₃ -	H	H	H	H	OH	H	Cl
-(CH ₂) ₃ -	H	H	CH ₃	H	OH	H	Cl
-(CH ₂) ₃ -	H	H	C ₂ H ₅	H	OH	H	Cl
-(CH ₂) ₃ -	H	H	n-C ₃ H ₇	H	OH	H	Cl
-(CH ₂) ₃ -	H	H	n-C ₄ H ₉	H	OH	H	Cl
-(CH ₂) ₃ -	H	H	i-C ₃ H ₇	H	OH	H	Cl
-(CH ₂) ₃ -	H	H	i-C ₄ H ₉	H	OH	H	Cl
-(CH ₂) ₃ -	H	H	n-C ₅ H ₁₁	H	OH	H	Cl
-(CH ₂) ₃ -	H	H	n-C ₆ H ₁₃	H	OH	H	Cl
-(CH ₂) ₃ -	H	H	C ₂ H ₄ OH	H	OH	H	Cl
-(CH ₂) ₃ -	H	H	-CH ₂ -CH-CH ₃ OH	H	OH	H	Cl

R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -CH ₂ -OH	H	OH	H	Cl
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -N(CH ₃) ₂	H	OH	H	Cl
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	H	OH	H	Cl
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -N(C ₄ H ₉) ₂	H	OH	H	Cl
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -CH ₂ -N(CH ₃) ₂	H	OH	H	Cl
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -CH ₂ -N(C ₂ H ₅) ₂	H	OH	H	Cl
-(CH ₂) ₃ -	H	H	-CH ₂ -CON(CH ₃) ₂	H	OH	H	Cl
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -CON(CH ₃) ₂	H	OH	H	Cl
-(CH ₂) ₃ -	H	H	-CH ₂ -CON(C ₂ H ₅) ₂	H	OH	H	Cl
-(CH ₂) ₃ -	H	H	-CH ₂ -C ₆ H ₅	H	OH	H	Cl
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -C ₆ H ₅	H	OH	H	Cl
-(CH ₂) ₃ -	H	H	-CH ₂ -CH ₂ -N 	H	OH	H	Cl

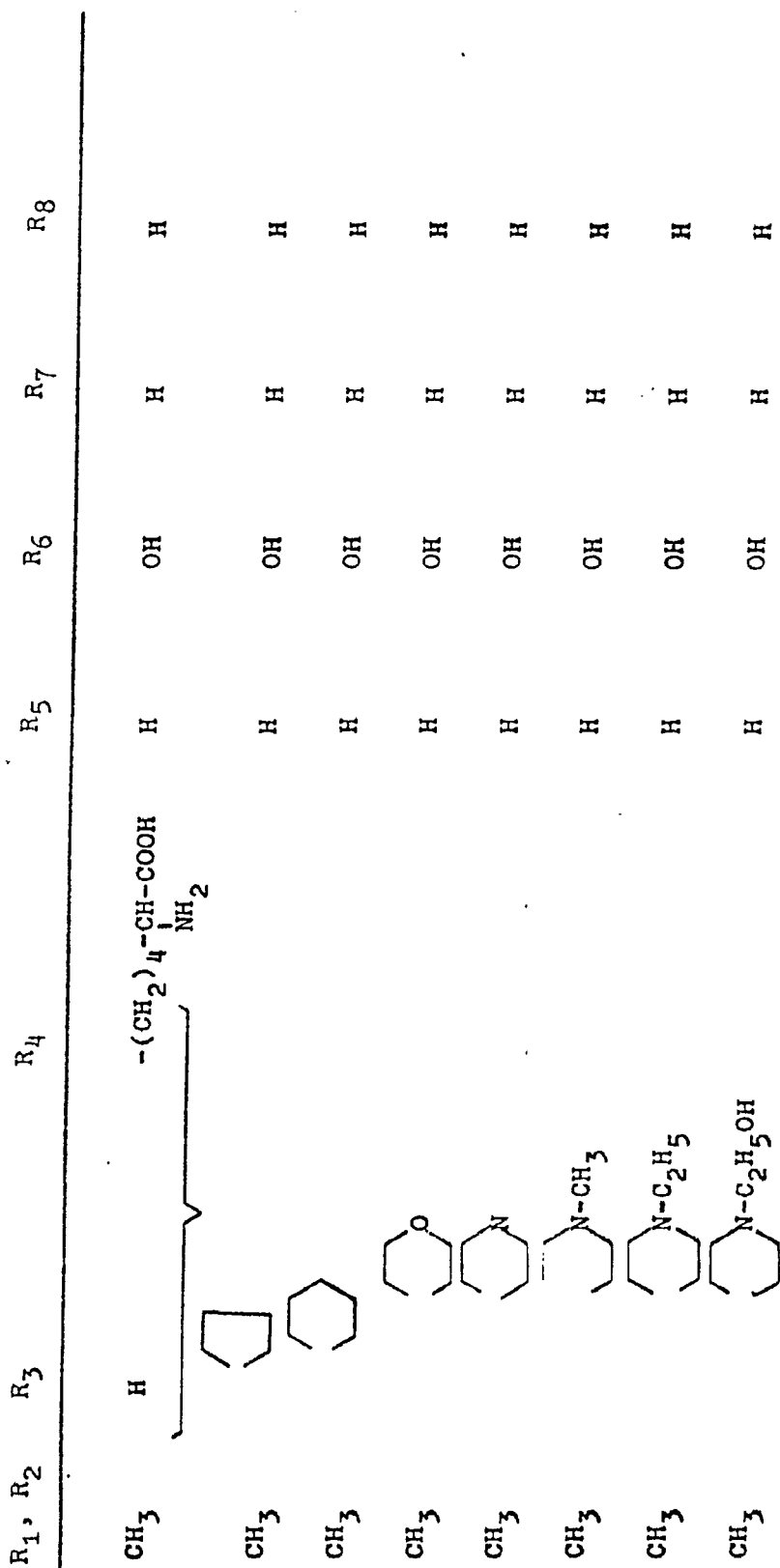
R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₃ -		H	-CH ₂ -CH ₂ -N 	H	OH	H	Cl
-(CH ₂) ₃ -		H	-CH ₂ -CH ₂ -N 	H	OH	H	Cl
-(CH ₂) ₃ -		H	-CH ₂ -CH ₂ -N  -CH ₃	H	OH	H	Cl
-(CH ₂) ₃ -		n-C ₅ H ₁₁	n-C ₅ H ₁₁	H	OH	H	Cl
-(CH ₂) ₃ -		n-C ₆ H ₁₃	n-C ₆ H ₁₃	H	OH	H	Cl
-(CH ₂) ₃ -		i-C ₃ H ₇	i-C ₃ H ₇	H	OH	H	Cl
-(CH ₂) ₃ -		i-C ₄ H ₉	i-C ₄ H ₉	H	OH	H	Cl
-(CH ₂) ₃ -		C ₂ H ₄ OH	C ₂ H ₄ OH	H	OH	H	Cl
-(CH ₂) ₃ -		-CH ₂ -CH-CH ₃ OH	-CH ₂ -CH-CH ₃ OH	H	OH	H	Cl
-(CH ₂) ₃ -		-CH ₃	C ₂ H ₄ OH	H	OH	H	Cl
-(CH ₂) ₃ -		-CH ₂ -CH ₂ -CH ₂ OH	-CH ₂ -CH ₂ -CH ₂ OH	H	OH	H	Cl

R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
-(CH ₂) ₃ -		-CH ₂ -C ₆ H ₅	-CH ₂ -C ₆ H ₅	H	OH	H	Cl
-(CH ₂) ₃ -		-CH ₂ -CH ₂ -C ₆ H ₅	-CH ₂ -CH ₂ -C ₆ H ₅	H	OH	H	Cl
-(CH ₂) ₃ -		H		H	OH	H	Cl
-(CH ₂) ₃ -		H		H	OH	H	Cl
-(CH ₂) ₃ -		H		H	OH	H	Cl
-(CH ₂) ₃ -				H	OH	H	Cl
-(CH ₂) ₃ -				H	OH	H	Cl
-(CH ₂) ₃ -				H	OH	H	Cl
-(CH ₂) ₃ -				H	OH	H	Cl
-(CH ₂) ₃ -				H	OH	H	Cl
-(CH ₂) ₃ -				H	OH	H	Cl





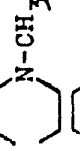
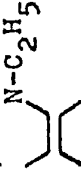
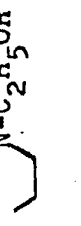
Como ejemplos adicionales de compuestos que pueden prepararse de acuerdo con el invento caben citarse las siguientes tetraciclinas sustituidas.

T A B E L L E VI a





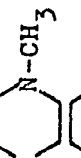
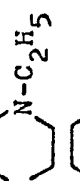
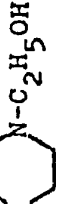
R_1, R_2, R_3	R_4	R_5	R_6	R_7	R_8
CH_3	CH_3	H	OH	H	H
CH_3	CH_3	H	OH	H	H
CH_3	C_2H_5	H	OH	H	H
CH_3	$n-C_3H_7$	H	OH	H	H
CH_3	$n-C_4H_9$	H	OH	H	H
CH_3	H	H	OH	H	H
CH_3	H	H	OH	H	H
CH_3	H	H	OH	H	H
CH_3	H	H	OH	H	H
CH_3	H	H	OH	H	H
CH_3	H	H	OH	H	H
CH_3	H	H	OH	H	H



R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
C_2H_5	CH_3	CH_3	H	OH	H	H
C_2H_5	CH_3	C_2H_5	H	OH	H	H
C_2H_5	C_2H_5	C_2H_5	H	OH	H	H
C_2H_5	$n-C_3H_7$	$n-C_3H_7$	H	OH	H	H
C_2H_5	$n-C_4H_9$	$n-C_4H_9$	H	OH	H	H
C_2H_5	H	CH_2-COOH	H	OH	H	H
C_2H_5	H	$CH_2-COOC_2H_5$	H	OH	H	H
C_2H_5	H	$CH_3-CH-COOH$ 	H	OH	H	H
C_2H_5	H	$CH_3-CH-COOC_2H_5$ 	H	OH	H	H
C_2H_5	H	$-CH_2-CH_2-COOH$	H	OH	H	H
C_2H_5	H	$-CH_2-CH_2-COOC_2H_5$	H	OH	H	H

R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
C ₂ H ₅	H	$-(\text{CH}_2)_4-\text{CH}-\text{COOH}$ NH ₂	H	OH	H	H
C ₂ H ₅			H	OH	H	H
C ₂ H ₅			H	OH	H	H
C ₂ H ₅			H	OH	H	H
C ₂ H ₅			H	OH	H	H
C ₂ H ₅			H	OH	H	H
C ₂ H ₅			H	OH	H	H
C ₂ H ₅			H	OH	H	H

R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_3H_7$	CH_3	CH_3	H	OH	H	H
$n-C_3H_7$	CH_3	C_2H_5	H	OH	H	H
$n-C_3H_7$	C_2H_5	C_2H_5	H	OH	H	H
$n-C_3H_7$	$n-C_3H_7$	$n-C_3H_7$	H	OH	H	H
$n-C_3H_7$	$n-C_4H_9$	$n-C_4H_9$	H	OH	H	H
$n-C_3H_7$	H	CH_2-COOH	H	OH	H	H
$n-C_3H_7$	H	$CH_2-COOC_2H_5$	H	OH	H	H
$n-C_3H_7$	H	$CH_3-CH-COOH$ 	H	OH	H	H
$n-C_3H_7$	H	$CH_3-CH-COOC_2H_5$ 	H	OH	H	H
$n-C_3H_7$	H	$-CH_2-CH_2-COOH$	H	OH	H	H
$n-C_3H_7$	H	$-CH_2-CH_2-COOC_2H_5$	H	OH	H	H

R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₃ H ₇	H	$-(\text{CH}_2)_4-\underset{\text{NH}_2}{\text{CH}}-\text{COOH}$	H	OH	H	H
n-C ₃ H ₇			H	OH	H	H
n-C ₃ H ₇			H	OH	H	H
n-C ₃ H ₇			H	OH	H	H
n-C ₃ H ₇			H	OH	H	H
n-C ₃ H ₇			H	OH	H	H
n-C ₃ H ₇			H	OH	H	H
n-C ₃ H ₇			H	OH	H	H

R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_4H_9$	CH_3	CH_3	H	OH	H	H
$n-C_4H_9$	CH_3	C_2H_5	H	OH	H	H
$n-C_4H_9$	C_2H_5	C_2H_5	H	OH	H	H
$n-C_4H_9$	$n-C_3H_7$	$n-C_3H_7$	H	OH	H	H
$n-C_4H_9$	$n-C_4H_9$	$n-C_4H_9$	H	OH	H	H
$n-C_4H_9$	H	CH_2-COOH	H	OH	H	H
$n-C_4H_9$	H	$CH_2-COOC_2H_5$	H	OH	H	H
$n-C_4H_9$	H	$CH_3-CH-COOH$ 	H	OH	H	H
$n-C_4H_9$	H	$CH_3-CH-COOC_2H_5$ 	H	OH	H	H
$n-C_4H_9$	H	$-CH_2-CH_2-COOH$	H	OH	H	H
$n-C_4H_9$	H	$-CH_2-CH_2-COOC_2H_5$	H	OH	H	H





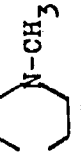
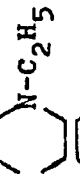



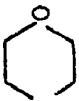


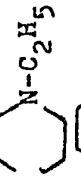
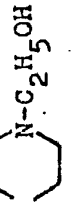
R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₄ H ₉	H	-(CH ₂) ₄ -CH-COOH NH ₂	H	OH	H	H
n-C ₄ H ₉			H	OH	H	H
n-C ₄ H ₉			H	OH	H	H
n-C ₄ H ₉			H	OH	H	H
n-C ₄ H ₉			H	OH	H	H
n-C ₄ H ₉		N-CH ₃	H	OH	H	H
n-C ₄ H ₉		N-C ₂ H ₅	H	OH	H	H
n-C ₄ H ₉		N-C ₂ H ₅ OH	H	OH	H	H

TABELLE VI b.

R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
CH_3	CH_3	CH_3	H	H	H	$-N(CH_3)_2$
CH_3	CH_3	C_2H_5	H	H	H	$-N(CH_3)_2$
CH_3	C_2H_5	C_2H_5	H	H	H	$-N(CH_3)_2$
CH_3	$n-C_3H_7$	$n-C_3H_7$	H	H	H	$-N(CH_3)_2$
CH_3	$n-C_4H_9$	$n-C_4H_9$	H	H	H	$-N(CH_3)_2$
CH_3	H	CH_2-COOH	H	H	H	$-N(CH_3)_2$
CH_3	H	$CH_2-COOC_2H_5$	H	H	H	$-N(CH_3)_2$
CH_3	H	$CH_3-CH-COOH$	H	H	H	$-N(CH_3)_2$
CH_3	H	$CH_3-CH-COOC_2H_5$	H	H	H	$-N(CH_3)_2$
CH_3	H	$-CH_2-CH_2-COOH$	H	H	H	$-N(CH_3)_2$
CH_3	H	$-CH_2-CH_2-COOC_2H_5$	H	H	H	$-N(CH_3)_2$





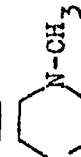
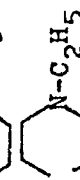
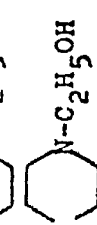
R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
CH ₃	H	$-(\text{CH}_2)_4-\underset{\text{NH}_2}{\text{CH}}-\text{COOH}$	H	H	H	$-\text{N}(\text{CH}_3)_2$
CH ₃			H	H	H	$-\text{N}(\text{CH}_3)_2$
CH ₃			H	H	H	$-\text{N}(\text{CH}_3)_2$
CH ₃			H	H	H	$-\text{N}(\text{CH}_3)_2$
CH ₃			H	H	H	$-\text{N}(\text{CH}_3)_2$
CH ₃			H	H	H	$-\text{N}(\text{CH}_3)_2$
CH ₃			H	H	H	$-\text{N}(\text{CH}_3)_2$
CH ₃			H	H	H	$-\text{N}(\text{CH}_3)_2$

**POOR
QUALITY**

R₁, R₂ R₃ R₄ R₅ R₆ R₇ R₈



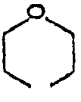

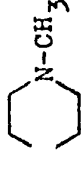
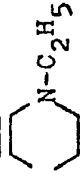
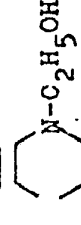
C ₂ H ₅	CH ₃	CH ₃	H	H	H	-N(CH ₃) ₂
C ₂ H ₅	CH ₃	C ₂ H ₅	H	H	H	-N(CH ₃) ₂
C ₂ H ₅	C ₂ H ₅	C ₂ H ₅	H	H	H	-N(CH ₃) ₂
C ₂ H ₅	n-C ₃ H ₇	n-C ₃ H ₇	H	H	H	-N(CH ₃) ₂
C ₂ H ₅	n-C ₄ H ₉	n-C ₄ H ₉	H	H	H	-N(CH ₃) ₂
C ₂ H ₅	H	CH ₂ -COOH	H	H	H	-N(CH ₃) ₂
C ₂ H ₅	H	CH ₂ -COOC ₂ H ₅	H	H	H	-N(CH ₃) ₂
C ₂ H ₅	H	CH ₃ -CH-COOH 	H	H	H	-N(CH ₃) ₂
C ₂ H ₅	H	CH ₃ -CH-COOC ₂ H ₅ 	H	H	H	-N(CH ₃) ₂
C ₂ H ₅	H	-CH ₂ -CH ₂ -COOH	H	H	H	-N(CH ₃) ₂
C ₂ H ₅	H	-CH ₂ -CH ₂ -COOC ₂ H ₅	H	H	H	-N(CH ₃) ₂

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104
1

R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
C ₂ H ₅	H	$-(\text{CH}_2)_4-\text{CH}-\text{COOH}$ NH ₂	H	H	H	-N(CH ₃) ₂
C ₂ H ₅			H	H	H	-N(CH ₃) ₂
C ₂ H ₅			H	H	H	-N(CH ₃) ₂
C ₂ H ₅			H	H	H	-N(CH ₃) ₂
C ₂ H ₅			H	H	H	-N(CH ₃) ₂
C ₂ H ₅			H	H	H	-N(CH ₃) ₂
C ₂ H ₅			H	H	H	-N(CH ₃) ₂
C ₂ H ₅			H	H	H	-N(CH ₃) ₂





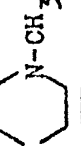
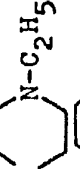
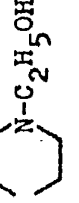
**POOR
QUALITY**

R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_3H_7$	CH_3	CH_3	H	H	H	$-N(CH_3)_2$
$n-C_3H_7$	CH_3	C_2H_5	H	H	H	$-N(CH_3)_2$
$n-C_3H_7$	C_2H_5	C_2H_5	H	H	H	$-N(CH_3)_2$
$n-C_3H_7$	$n-C_3H_7$	$n-C_3H_7$	H	H	H	$-N(CH_3)_2$
$n-C_3H_7$	$n-C_4H_9$	$n-C_4H_9$	H	H	H	$-N(CH_3)_2$
$n-C_3H_7$	H	CH_2-COOH	H	H	H	$-N(CH_3)_2$
$n-C_3H_7$	H	$CH_2-COOC_2H_5$	H	H	H	$-N(CH_3)_2$
$n-C_3H_7$	H	$CH_3-CH-COOH$ 	H	H	H	$-N(CH_3)_2$
$n-C_3H_7$	H	$CH_3-CH-COOC_2H_5$ 	H	H	H	$-N(CH_3)_2$
$n-C_3H_7$	H	$-CH_2-CH_2-COOH$	H	H	H	$-N(CH_3)_2$
$n-C_3H_7$	H	$-CH_2-CH_2-COOC_2H_5$	H	H	H	$-N(CH_3)_2$

R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₃ H ₇	H	$-(\text{CH}_2)_4-\text{CH}-\text{COOH}$ NH ₂	H	H	H	-N(CH ₃) ₂
n-C ₃ H ₇			H	H	H	-N(CH ₃) ₂
n-C ₃ H ₇			H	H	H	-N(CH ₃) ₂
n-C ₃ H ₇			H	H	H	-N(CH ₃) ₂
n-C ₃ H ₇			H	H	H	-N(CH ₃) ₂
n-C ₃ H ₇			H	H	H	-N(CH ₃) ₂
n-C ₃ H ₇			H	H	H	-N(CH ₃) ₂
n-C ₃ H ₇			H	H	H	-N(CH ₃) ₂

**POOR
QUALITY**

R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_4H_9$	CH_3	CH_3	H	H	H	$-N(CH_3)_2$
$n-C_4H_9$	CH_3	C_2H_5	H	H	H	$-N(CH_3)_2$
$n-C_4H_9$	C_2H_5	C_2H_5	H	H	H	$-N(CH_3)_2$
$n-C_4H_9$	$n-C_3H_7$	$n-C_3H_7$	H	H	H	$-N(CH_3)_2$
$n-C_4H_9$	$n-C_4H_9$	$n-C_4H_9$	H	H	H	$-N(CH_3)_2$
$n-C_4H_9$	H	CH_2-COOH	H	H	H	$-N(CH_3)_2$
$n-C_4H_9$	H	$CH_2-COOC_2H_5$	H	H	H	$-N(CH_3)_2$
$n-C_4H_9$	H	$CH_3-CH-COOH$ 	H	H	H	$-N(CH_3)_2$
$n-C_4H_9$	H	$CH_3-CH-COOC_2H_5$ 	H	H	H	$-N(CH_3)_2$
$n-C_4H_9$	H	$-CH_2-CH_2-COOH$	H	H	H	$-N(CH_3)_2$
$n-C_4H_9$	H	$-CH_2-CH_2-COOC_2H_5$	H	H	H	$-N(CH_3)_2$







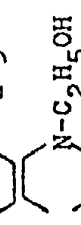
R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₄ H ₉	H	-(CH ₂) ₄ -CH-COOH NH ₂	H	H	H	-N(CH ₃) ₂
n-C ₄ H ₉			H	H	H	-N(CH ₃) ₂
n-C ₄ H ₉			H	H	H	-N(CH ₃) ₂
n-C ₄ H ₉			H	H	H	-N(CH ₃) ₂
n-C ₄ H ₉			H	H	H	-N(CH ₃) ₂
n-C ₄ H ₉		N-CH ₃	H	H	H	-N(CH ₃) ₂
n-C ₄ H ₉		N-C ₂ H ₅	H	H	H	-N(CH ₃) ₂
n-C ₄ H ₉		N-C ₂ H ₅ OH	H	H	H	-N(CH ₃) ₂

1 189 1

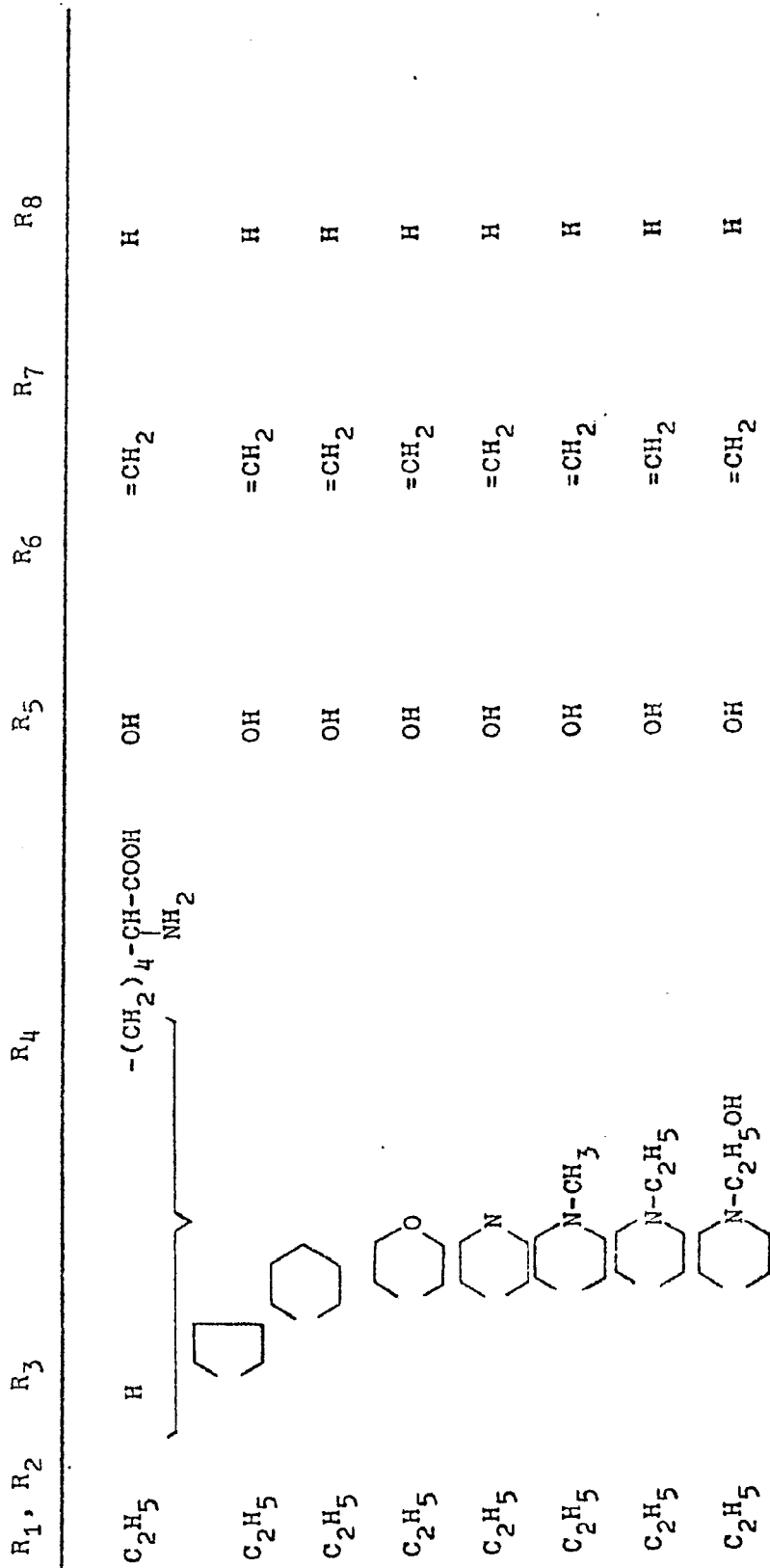
POOR QUALITY

T A B E L L E V I c











R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
CH ₃	CH ₃	CH ₃	OH		=CH ₂	H
CH ₃	CH ₃	C ₂ H ₅	OH		=CH ₂	H
CH ₃	C ₂ H ₅	C ₂ H ₅	OH		=CH ₂	H
CH ₃	n-C ₃ H ₇	n-C ₃ H ₇	OH		=CH ₂	H
CH ₃	n-C ₄ H ₉	n-C ₄ H ₉	OH		=CH ₂	H
CH ₃	H	CH ₂ -COOH	OH		=CH ₂	H
CH ₃	H	CH ₂ -COOC ₂ H ₅	OH		=CH ₂	H
CH ₃	H	CH ₃ -CH-COOH 	OH		=CH ₂	H
CH ₃	H	CH ₃ -CH-COOC ₂ H ₅ 	OH		=CH ₂	H
CH ₃	H	-CH ₂ -CH ₂ -COOH	OH		=CH ₂	H
CH ₃	H	-CH ₂ -CH ₂ -COOC ₂ H ₅	OH		=CH ₂	H

R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
CH ₃	H	$-(\text{CH}_2)_4-\underset{\text{NH}_2}{\text{CH}}-\text{COOH}$	OH	=CH ₂		H
CH ₃			OH	=CH ₂		H
CH ₃			OH	=CH ₂		H
CH ₃			OH	=CH ₂		H
CH ₃			OH	=CH ₂		H
CH ₃			OH	=CH ₂		H
CH ₃			OH	=CH ₂		H
CH ₃			OH	=CH ₂		H





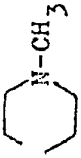
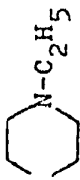
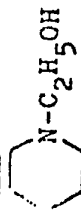
R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
C_2H_5	CH_3	CH_3	OH	$=CH_2$		H
C_2H_5	CH_3	C_2H_5	OH	$=CH_2$		H
C_2H_5	C_2H_5	C_2H_5	OH	$=CH_2$		H
C_2H_5	$n-C_3H_7$	$n-C_3H_7$	OH	$=CH_2$		H
C_2H_5	$n-C_4H_9$	$n-C_4H_9$	OH	$=CH_2$		H
C_2H_5	H	CH_2-COOH	OH	$=CH_2$		H
C_2H_5	H	$CH_2-COOC_2H_5$	OH	$=CH_2$		H
C_2H_5	H	$CH_3-CH-COOH$ 	OH	$=CH_2$		H
C_2H_5	H	$CH_3-CH-COOC_2H_5$ 	OH	$=CH_2$		H
C_2H_5	H	$-CH_2-CH_2-COOH$	OH	$=CH_2$		H
C_2H_5	H	$-CH_2-CH_2-COOC_2H_5$	OH	$=CH_2$		H



R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₃ H ₇	CH ₃	CH ₃	OH		=CH ₂	H
n-C ₃ H ₇	CH ₃	C ₂ H ₅	OH		=CH ₂	H
n-C ₃ H ₇	C ₂ H ₅	C ₂ H ₅	OH		=CH ₂	H
n-C ₃ H ₇	n-C ₃ H ₇	n-C ₃ H ₇	OH		=CH ₂	H
n-C ₃ H ₇	n-C ₄ H ₉	n-C ₄ H ₉	OH		=CH ₂	H
n-C ₃ H ₇	H	CH ₂ -COOH	OH		=CH ₂	H
n-C ₃ H ₇	H	CH ₂ -COOC ₂ H ₅	OH		=CH ₂	H
n-C ₃ H ₇	H	CH ₃ -CH-COOH 	OH		=CH ₂	H
n-C ₃ H ₇	H	CH ₃ -CH-COOC ₂ H ₅ 	OH		=CH ₂	H
n-C ₃ H ₇	H	-CH ₂ -CH ₂ -COOH	OH		=CH ₂	H
n-C ₃ H ₇	H	-CH ₂ -CH ₂ -COOC ₂ H ₅	OH		=CH ₂	H

R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₃ H ₇	H	-(CH ₂) ₄ -CH-COOH NH ₂	OH	=CH ₂	H	H
n-C ₃ H ₇			OH	=CH ₂	H	H
n-C ₃ H ₇			OH	=CH ₂	H	H
n-C ₃ H ₇		   	OH	=CH ₂	H	H
n-C ₃ H ₇			OH	=CH ₂	H	H
n-C ₃ H ₇			OH	=CH ₂	H	H
n-C ₃ H ₇			OH	=CH ₂	H	H
n-C ₃ H ₇			OH	=CH ₂	H	H

R_1, R_2	R_3	R_4	R_5	R_6	R_7	R_8
$n-C_4H_9$	CH_3	CH_3	OH	$=CH_2$	H	
$n-C_4H_9$	CH_3	C_2H_5	OH	$=CH_2$	H	
$n-C_4H_9$	C_2H_5	C_2H_5	OH	$=CH_2$	H	
$n-C_4H_9$	$n-C_3H_7$	$n-C_3H_7$	OH	$=CH_2$	H	
$n-C_4H_9$	$n-C_4H_9$	$n-C_4H_9$	OH	$=CH_2$	H	
$n-C_4H_9$	H	CH_2-COOH	OH	$=CH_2$	H	
$n-C_4H_9$	H	$CH_2-COOC_2H_5$	OH	$=CH_2$	H	
$n-C_4H_9$	H	$CH_3-CH-COOH$ 	OH	$=CH_2$	H	
$n-C_4H_9$	H	$CH_3-CH-COOC_2H_5$ 	OH	$=CH_2$	H	
$n-C_4H_9$	H	$-CH_2-CH_2-COOH$	OH	$=CH_2$	H	
$n-C_4H_9$	H	$-CH_2-CH_2-COOC_2H_5$	OH	$=CH_2$	H	

R ₁ , R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈
n-C ₄ H ₉	H	$-(\text{CH}_2)_4-\text{CH}-\text{COOH}$ NH ₂	OH	=CH ₂		H
n-C ₄ H ₉			OH	=CH ₂		H
n-C ₄ H ₉			OH	=CH ₂		H
n-C ₄ H ₉			OH	=CH ₂		H
n-C ₄ H ₉			OH	=CH ₂		H
n-C ₄ H ₉		N-CH ₃	OH	=CH ₂		H
n-C ₄ H ₉		N-C ₂ H ₅	OH	=CH ₂		H
n-C ₄ H ₉		N-C ₂ H ₄ OH	OH	=CH ₂		H

Los siguientes ejemplos de realización sirven para explicar adicionalmente el invento, sin limitarlo a ellos.

Ejemplo 1.

5 N-(1,1-dietoxi-2-pirrolidinoetil)-tetraciclina.

2,22 g de base de tetraciclina son disueltos en una mezcla de 2,4 g de glioxaldietilmonoacetal, 0,33 g de pirrolidina y 10 ml de cloruro de metileno anhidro y se agitan a la temperatura ambiente durante 3 horas bajo una atmósfera de nitrógeno.

10 La solución es concentrada en el evaporador rotatorio hasta un tercio del volumen original. Vertiendo la solución en 50 ml de éter se mantiene la N-(1,1-dietoxi-2-pirrolidinoetil)-tetraciclina en una forma bien apta para ser filtrada. Rendimiento: 2,0 g; punto de fusión: 117°C.

Ejemplo 2.

N-(1,1-dietoxi-2-pirrolidinoetil)-tetraciclina.

20 Una solución de 2,22 g de base de tetraciclina en 10 ml de cloruro de metileno es reunida con 1,1-dietoxi-2,2-dipirrolidiniletano, preparado haciendo reaccionar 1,32 g de glioxaldietilmonoacetal y 1,42 g de pirrolidina, y se agita a la temperatura ambiente durante 3 horas bajo atmósfera de nitrógeno. La solución es concentrada y el producto es precipitado con

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15-2-75.

Ejemplo 7.

N-(1,1-dietoxi-2-morfolinoetil)-tetraciclina.

Punto de fusión: 106°C.

Ejemplo 8.

5 N-(1,1-dietoxi-2-piperidinoetil)-tetraciclina

Punto de fusión: 95 a 105°C.

Ejemplo 9.

N-(1,1-dietoxi-2-dimetilaminoisopropilaminoetil)-tetraciclina.

10 Punto de fusión: 123°C.

Ejemplo 10.

N-(1,1-dietoxi-2-n-propilaminoetil)-tetraciclina

Punto de fusión: 142°C.

Ejemplo 11.

15 N-(1,1-dietoxi-2-n-butilaminoetil)-tetraciclina

Punto de fusión: 101 a 114°C.

Ejemplo 12.

N-(1,1-dietoxi-2-piperidinoetil)-tetraciclina

Punto de fusión: 140°C.

20 Ejemplo 13.

N-(1,1-dietoxi-2-dimetilaminoetil)-tetraciclina

Punto de fusión: 141°C.

Ejemplo 14.

N-(1,1-dietoxi-2-dietilaminoetil)-tetraciclina

25 Punto de fusión: 137°C.

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Ejemplo 15.

N-(1,1-dimetoxi-2-N-metilpiperazinoetil)-tetraciclina.

Punto de fusión: 146°C.

Ejemplo 16.

5 N-(1,1-dimetoximorfolinoetil)-tetraciclina

Punto de fusión: 140°C.

Ejemplo 17.

N-(1,1-dimetoxi-2-dimetilaminoisopropilaminoetil)-tetraciclina.

10 Punto de fusión: 113°C.

Ejemplo 18:

N-(1,1-dimetoxi-2-hidroxietilaminoetil)-tetraciclina.

Punto de fusión: 102°C.

Ejemplo 19.

15 N-(1,1-dimetoxi-2-n-butilaminoetil)-tetraciclina

Punto de fusión: 113°C.

Ejemplo 20:

N-(1,1-dimetoxi-2-pirrolidinoetil)-desmetilclorotetraciclina.

20 Ejemplo 21.

Citrato de N-(1,1-dietoxi-2-piperidinoetil)-tetraciclina.

25 2,22 g de base de tetraciclina son disueltos en una mezcla de 2,4 g de glioxaldietilmonoacetal, 0,4 g de piperidina y 10 ml de cloruro de metileno an-

15-2-75.

hidro y son agitados a la temperatura ambiente durante 3 horas bajo una atmósfera de nitrógeno. Se agrega una solución de 0,95 g de ácido cítrico en 3 ml de etanol, se concentra en vacío y se precipita la N-(1,1-dietoxi-2-piperidinoetil)-tetraciclina por adición de éter.

5

Ejemplo 22.

N-(1,1-dimetoxi-2-morfolinoetil)-oxitetraciclina

2,3 g de base de oxitetraciclina son incorporados en una solución de 0,48 g de morfolina y 2,2 g de glioxaldimetilmonoacetal en 10 ml de dimetilformamida. Tras agitar durante 3 horas bajo una atmósfera de nitrógeno, la solución es concentrada en vacío y el producto es precipitado por adición de 50 ml de éter.

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Rendimiento: 1,5 g, punto de fusión: 110°C.

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Los compuestos de los Ejemplos 23 a 33 son preparados de manera análoga a la del Ejemplo 22.

Ejemplo 23.

N-(1,1-dimetoxi-2-pirrolidinoetil)-oxitetraciclina.

Punto de fusión: 115°C.

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Ejemplo 24.

N-(1,1-dimetoxi-2-piperidinoetil)-oxitetraciclina.

Ejemplo 25.

N-(1,1-dimetoxi-2-l-metilpiperazinoetil)-oxitetraciclina.

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Punto de fusión: 119°C.

Ejemplo 26.

N-(1,1-dimetoxi-2-N-dietilaminoetil)-oxitetraciclina.

Punto de fusión: 101°C.

Ejemplo 27.

5 N-(1,1-dimetoxi-2-N-dimetilaminoetil)-oxitetraciclina.

Punto de fusión: 116°C.

Ejemplo 28.

N-(1,1-dietoxi-2-pirrolidinoetil)-oxitetraciclina.

Punto de fusión: 104 a 109°C.

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Ejemplo 29.

N-(1,1-dietoxi-2-dietilaminoetil)-oxitetraciclina.

Punto de fusión: 86 a 102°C.

Ejemplo 30.

N-(1,1-dietoxi-2-dimetilaminoetil)-oxitetraciclina.

15

Punto de fusión: 86 a 105°C.

Ejemplo 31.

N-(1,1-dietoxi-2-morfolinoetil)-oxitetraciclina.

Punto de fusión: 85 a 105°C.

Ejemplo 32:

20 N-(1,1-dietoxi-2-piperidinoetil)-oxitetraciclina.

Punto de fusión: 99 a 109°C.

Ejemplo 33:

N-(1,1-dietoxi-2-N-metilpiperazinoetil)-oxitetraciclina.

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Punto de fusión: 103 a 117°C.

15-2-75.

La presente solicitud, que corresponde a la presentada en la República Federal Alemana, el 13 de Abril de 1974, bajo el N° P 24 18 142.8, se acoge a los beneficios del artículo 51 del vigente Estatuto sobre Propiedad Industrial.

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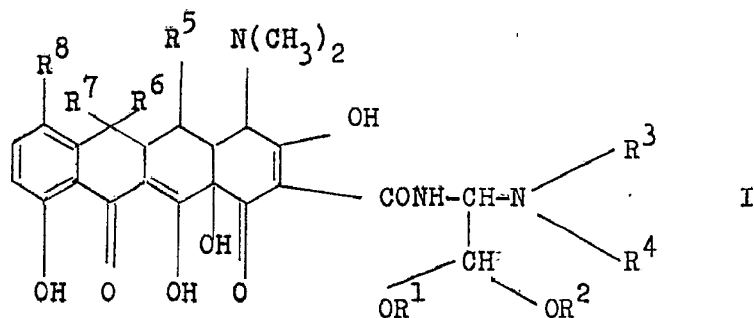
REIVINDICACIONES

Los puntos de invención propia y nueva que se presentan para que sean objeto de esta solicitud de Patente de Invención en España, por VEINTE años, son los que se recogen en las reivindicaciones siguientes:

15
1s.- Procedimiento para la preparación de tetraciclinas sustituidas en el grupo amido, de la fórmula general I

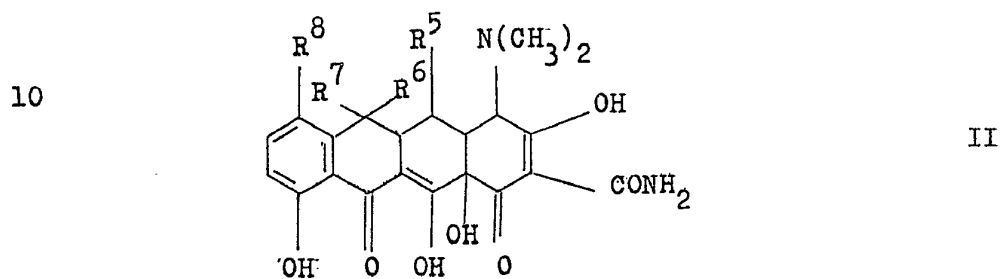
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en la que R^1 y R^2 , que son iguales, significan un radical alcoholo de bajo peso molecular con 1 a 5 átomos de carbono o conjuntamente un grupo etileno o propileno; R^3 y R^4 , que pueden ser iguales o diferentes, representan hidrógeno, alcoholo eventualmente ramificado con 1 a 6, preferiblemente 1 a 4, átomos de carbono, que eventualmente puede estar sustituido una o varias veces, de igual o de diferente modo, con un grupo hidroxilo, un grupo dialcoholamino de bajo peso molecular, un grupo dialcoholcarbamoilo de bajo peso molecular, un grupo alcocarbonilo de bajo peso molecular, un grupo fenilo, un radical heterocíclico, especialmente un anillo de 5 ó 6 miembros eventualmente interrumpido por oxígeno y/o por nitrógeno, o un grupo carboxilo, pudiendo en el último de los casos estar sustituido el grupo alcoholo también además con un grupo amino, o representan cicloalcoholo con 5 a 7 átomos de carbono y en donde R^3 y R^4 pueden también estar cerrados para formar un anillo de 5 ó 6 miembros, saturado o insaturado, eventualmente interrumpido por un átomo de nitrógeno o por un átomo de oxígeno, que eventualmente puede estar sustituido con un grupo alcoholo de bajo peso molecular, un grupo hidroxialcoholo de bajo peso molecular, un grupo carboxialcoholo de bajo peso molecular, un grupo hidroxilo o carbonilo; R^5 y R^6 , que pueden ser iguales o diferentes, signifi-

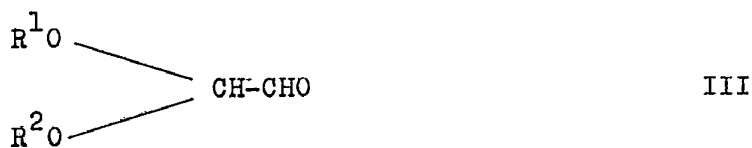
can hidrógeno o un grupo hidroxilo; R^7 significa hidrógeno o un grupo metilo, R^6 y R^7 significan conjuntamente también un grupo metileno; y R^8 significa hidrógeno, cloro, bromo o un grupo dialcoholamino de bajo peso molecular con 1 a 4 átomos de carbono, y de sus sales fisiológicamente compatibles, caracterizado porque se hace reaccionar una tetraciclina de la fórmula II



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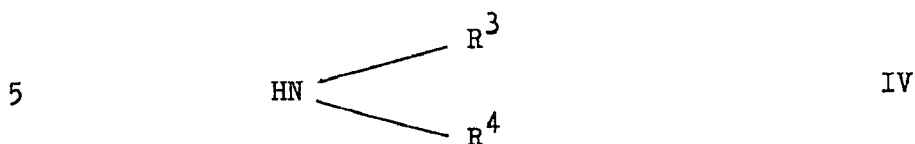
en la que los radicales R^5 hasta R^8 tienen los significados antes mencionados, con un aldehído de la fórmula III

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y con una amina de la fórmula IV



10 en la que los radicales R^1 hasta R^4 tienen los significados antes mencionados, y los compuestos de la fórmula I obtenidos, se transforman eventualmente en sales fisiológicamente compatibles.

15 2ª.- Procedimiento según la reivindicación 1ª, caracterizado porque se emplea la tetraciclina de la fórmula II o la amina de la fórmula IV en forma de una de sus sales.

3ª.- Procedimiento según la reivindicación 1ª, caracterizado porque se realiza en dos etapas como transaminoalcoholación.

20 4ª.- Procedimiento para la preparación de tetraciclinas.

Tal y como se ha descrito en la Memoria que antecede y para los fines que se han especificado.

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Esta Memoria consta de doscientas ocho hojas escritas a máquina por una sola cara.

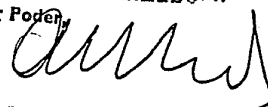
Madrid, 08. NOV. 1976

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Alberto de Elzaburu
Por Poderes



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