

PATENT SPECIFICATION

(11) 1 466 839

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- (21) Application No. 20362/75 (22) Filed 14 May 1975
 (31) Convention Application No. 2 423 679
 (32) Filed 15 May 1974
 (31) Convention Application No. 2 423 679
 (32) Filed 18 Dec. 1974 in
 (33) Fed. Rep. of Germany (DT)
 (44) Complete Specification published 9 March 1977
 (51) INT CL³ C07C 129/12; A61K 31/155; C07C 147/06, 149/32
 (52) Index at acceptance
 C2C 1175 200 202 220 221 225 226 227 22Y 281 30Y 311
 313 314 31Y 320 326 338 340 341 342 34Y 351
 354 355 364 366 368 36Y 373 37Y 396 397 591
 593 59Y 602 613 626 627 628 62X 638 63X 648
 658 65X 662 668 694 697 699 71X 71Y 790 79Y
 KB KD KN KY RA RB RC RF



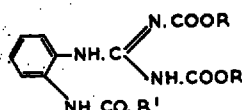
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(54) SUBSTITUTED PHENYLGUANIDINES, A PROCESS FOR THEIR PREPARATION AND THEIR USE AS MEDICAMENTS

(71) We, BAYER AKTIENGESellschaft, a body corporate organised under the laws of Germany, of 509 Leverkusen-Bayerwerk, Germany, do hereby declare the invention for which we pray that a patent may be granted to us and the method by which it is to be performed to be particularly described in and by the following statement:—

The present invention relates to certain new substituted phenylguanidines, to a process for their preparation and to their use as medicaments, especially as anthelmintics.

It has already been disclosed that phenylguanidines of the general formula



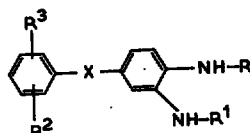
in which

R denotes a lower alkyl group and

R' denotes either a lower alkyl group or a hydrogen atom, exhibit anthelmintic effects (see German Offenlegungsschrift No. 2,117,293).

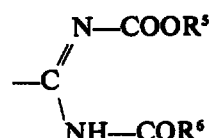
However, the anthelmintic effect of these compounds is relatively weak.

According to the present invention there are provided substituted phenylguanidines of the formula



in which

R and R¹ are different from one another and each represents the radical —COR⁴ or



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in which

R⁴ represents a hydrogen atom, or an optionally-substituted alkyl, optionally-substituted cycloalkyl, optionally-substituted aryl, optionally-substituted amino, optionally-substituted alkoxy or optionally-substituted aralkyl group, R⁵ represents an optionally-substituted alkyl, optionally-substituted alkenyl or optionally-substituted alkynyl group,

R⁶ represents a hydrogen atom or an optionally-substituted alkyl, optionally-substituted cycloalkyl, optionally-substituted alkoxy, optionally-substituted alkenyloxy, optionally-substituted alkynyloxy, optionally-substituted aryl, optionally-substituted aralkyl, optionally-substituted alkenyl or optionally-substituted alkynyl group.

and wherein

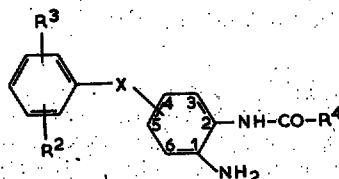
R² and R³ can be identical or different and each represents a hydrogen atom, an optionally-substituted alkyl (e.g. haloalkyl), optionally-substituted alkoxy or optionally-substituted amino group, a halogen atom or a nitrile, optionally-substituted alkylthio, optionally-substituted acyl or optionally-substituted carbalkoxy group

and wherein

X represents an oxygen atom, a sulphur atom, a sulphinyl group or a sulphonyl group.

The compounds of the invention exhibit very good anthelmintic effects.

The invention also provides a method of preparing a substituted phenyl-guanidine of the formula I by reacting a substituted-aniline derivative of the formula



(II)

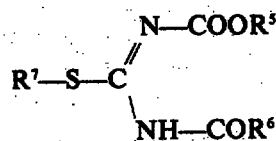
in which

R², R³, R⁴ and X have the abovementioned meaning

and in which

X can be linked to the 4- or 5- position of the substituted 1-amino-phenyl group of the formula (II),

with an isothiurea of the formula



(III)

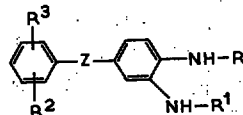
in which

R⁵ and R⁶ have the abovementioned meaning and

R⁷ represents an alkyl group of from 1 to 4 carbon atoms,

in the presence of a diluent and, optionally, in the presence of an acid.

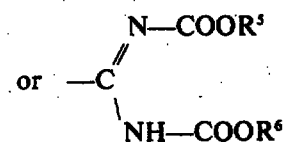
The invention also provides a method of preparing a substituted phenyl-guanidine of the formula



(Ia)

in which

R and R¹ are different from one another and each represents the radical -COR⁴



in which

R^4 represents a hydrogen atom, or an optionally-substituted alkyl, optionally-substituted cycloalkyl, optionally-substituted aryl, optionally-substituted amino, optionally-substituted alkoxy or optionally-substituted aralkyl group, R^5 represents an optionally-substituted alkyl, optionally-substituted alkenyl or optionally-substituted alkynyl group,

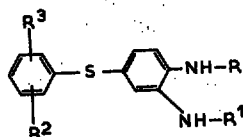
R^6 represents a hydrogen atom or an optionally-substituted alkyl, optionally-substituted cycloalkyl, optionally-substituted alkoxy, optionally-substituted alkenyloxy, optionally-substituted alkynyloxy, optionally-substituted aryl, optionally-substituted aralkyl, optionally-substituted alkenyl or optionally-substituted alkynyl group

and wherein

R^2 and R^3 can be identical or different and each represents a hydrogen atom, an optionally-substituted alkyl, optionally-substituted alkoxy, or optionally-substituted amino group, a halogen atom, or a halogenalkyl, nitrile, optionally-substituted alkylthio, optionally-substituted acyl or optionally-substituted carbalkoxy group

and wherein

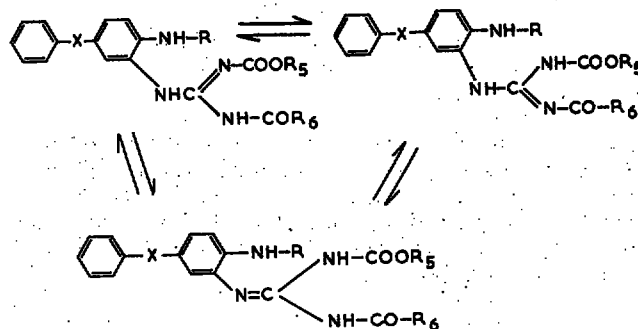
Z represents a sulphinyl or a sulphonyl group by reacting a substituted phenyl-guanidine having formula



(Ib)

in which R, R^1 , R^2 and R^3 have the meaning as indicated above with the appropriate amount of an oxidation agent.

The compounds according to the invention, of the formula I, can exist in tautomeric forms, as is shown by the example which follows:



In the text of the present application, the various structural formulae have, for reasons of consistency, been written in the same way in every case. Therefore, throughout this specification (including the claims) the references to any compound of the invention by a structural formulae is intended to include all tautomeric forms of the compound.

Surprisingly, the substituted phenylguanidines according to the invention exhibit an improved anthelmintic effect compared with the phenylguanidines mentioned in German Offenlegungsschrift No. 2,117,293, which, chemically, are the most closely related compounds exhibiting the same type of action.

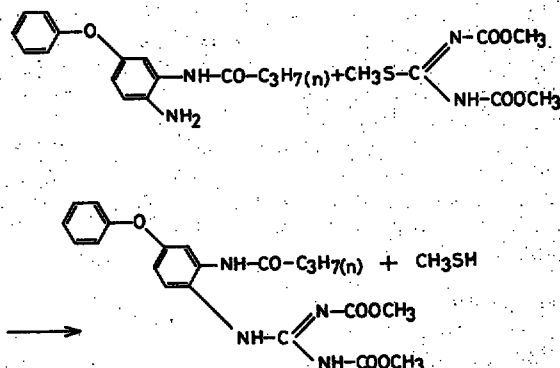
If, N,N'-bis-methoxycarbonyl-S-methyl-isothiurea and 2-amino-5-phenoxy-n-butyranilide are used as starting materials, the course of the reaction can be represented by the following equation:

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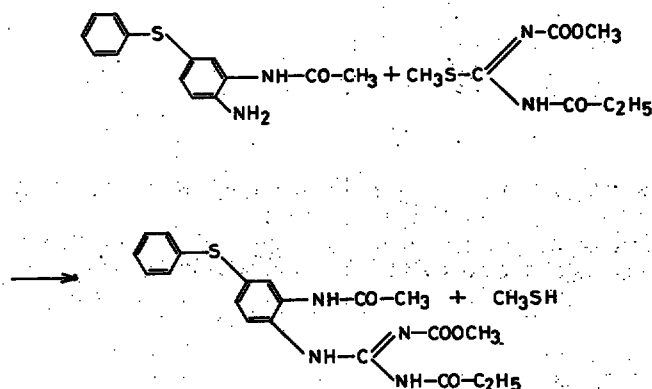
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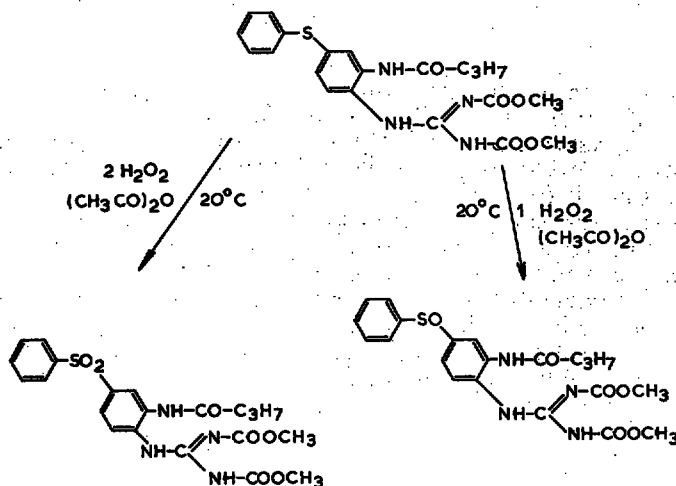
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If N-methoxycarbonyl-N'-propionyl-S-methyl-isothiurea and 2-amino-5-phenylthio-acetanilide are used as starting materials, the course of the reaction can be represented by the following equation:



It is likewise possible to employ other means to obtain the above compounds of formula (I), in which X represents a sulphinyl and/or sulphonyl radical. Thus, by oxidation of the compounds of formula I, in which X represents a sulphur atom, phenyl sulphinyl phenyl guanidine can be obtained with one equivalent of H_2O_2 or phenyl sulphonyl phenyl guanidine with two equivalents of H_2O_2 . The following Example serves to illustrate the method:



(2)

In place of H_2O_2 it is possible to employ other oxidation agents, for example: organic peroxoacid, peracetic acid, performic acid, perbenzoic acid, m-chlorobenzoic acid, monopero-phthalic acid, inorganic peroxides, such as hydrogen peroxide, organic acids dissolved in water or diluted, inorganic oxidation agents, such as chromic acid, nitric acid, potassium permanganate, chlorine, bromine, halogen oxygen acids, such as hypochlorous acid, chlorous acid, chloric acid or perchloric acid, tert.-butyl hypochlorite methyl hypochlorite, tert.-butyl chromate, organic N-halogen compounds, such as N-chloro-succinimide, N-bromo-succinimide, as well as N-halogen sulphonc acid amides or N-halogen carboxylic acid amides.

By selecting suitable reaction conditions known in the art, the oxidation potential can be appropriately adjusted and the reaction for the production of sulfoxides or sulphonates hence kept under control.

In the formulae I, II and III, the optionally-substituted alkyl groups of the radicals R^2 , R^3 , R^4 , R^5 and R^6 may be straight- or branched-chain, and preferably contains from 1 to 6, especially from 1 to 4 carbon atoms. Optionally-substituted methyl, ethyl, n- and i-propyl, and n-, i- and t-butyl groups may be mentioned as examples.

The optionally-substituted alkenyl groups of radicals R^5 and R^6 may be straight- or branched-chain alkenyl groups preferably containing from 2 to 6, especially 2 to 4, carbon atoms. Optionally-substituted ethenyl, propenyl-(1), propenyl-(2) and butenyl-(3) may be mentioned as examples.

The optionally-substituted alkynyl groups of the radicals R^5 and R^6 may be straight- or branched-chain alkynyl groups preferably containing from 2 to 6, especially from 2 to 4, carbon atoms. Optionally-substituted ethynyl, propynyl-(1), propynyl-(2) and butynyl-(3) may be mentioned as examples.

The optionally-substituted alkoxy groups of the radicals R^2 , R^3 , R^4 and R^6 may be straight- or branched-chain alkoxy groups with preferably from 1 to 6, especially from 1 to 4, carbon atoms. Optionally-substituted methoxy, ethoxy, n- and i-propoxy and n-, i- and t-butoxy may be mentioned as examples.

The optionally-substituted alkylthio groups of the radicals R^2 and R^3 may be straight- or branched-chain alkylthio groups with preferably from 1 to 6, especially from 1 to 4, carbon atoms. Optionally-substituted methylthio, ethylthio, n- and i-propylthio and n-, i- and t-butylthio may be mentioned as examples.

The optionally-substituted acyl groups of the radicals R^2 and R^3 preferably contain from 1 to 6, especially 2 to 4, carbon atoms. Formyl, acetyl, propionyl, n-butyryl and i-butyryl may be mentioned as examples.

The optionally-substituted carbalkoxy groups of the radicals R^2 and R^3 may be straight- or branched-chain carbalkoxy groups with preferably from 2 to 7, especially 2 to 5, carbon atoms. Optionally-substituted carbomethoxy, carboethoxy, carbo-n- and -i-propoxy and carbo-n-, -i- and -t-butoxy may be mentioned as examples.

The halogenoalkyl groups of the radicals R^2 and R^3 preferably contain from 1 to 4, especially 1 or 2, carbon atoms and preferably from 1 to 5, especially 1 to 3, identical or different halogen atoms, the halogen atoms preferably being fluorine, chlorine and bromine, especially fluorine and chlorine. Trifluoromethyl, chlorodifluoromethyl, bromomethyl, 2,2,2-trifluoroethyl and pentafluoroethyl may be mentioned as examples.

The halogen atoms of the radicals R^2 and R^3 in the formula II are preferably fluorine, chlorine, bromine or iodine atoms especially fluorine, chlorine and bromine atoms.

The optionally-substituted aryl groups of the radicals R^4 and R^6 preferably contain 6, or preferably from 6 to 10, carbon atoms in the aryl part. Optionally-substituted phenyl or naphthyl may be mentioned as examples.

The optionally-substituted aralkyl groups of the radicals R^4 and R^6 is preferably an aralkyl radical, optionally-substituted in the aryl part and/or alkyl part, with 6 or 10, especially 6, carbon atoms in the aryl part and from 1 to 4, especially 1 or 2, carbon atoms in the alkyl part, the alkyl part being straight-chain or branched. Optionally-substituted benzyl and phenylethyl may be mentioned as examples.

The optionally-substituted cycloalkyl groups of the radicals R^4 and R^6 is preferably a monocyclic, bicyclic or tricyclic cycloalkyl group with from 3 to 10, especially 3, 5 or 6, carbon atoms. Optionally-substituted cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, cycloheptyl, bicyclo-2,2,1-heptyl, bicyclo-2,2,2-octyl and adamantyl may be mentioned as examples.

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The optionally substituted alkenyloxy group of the radical R^6 may be a straight- or branched-chain alkenyloxy group with preferably from 2 to 6, especially 2 to 4, carbon atoms. Optionally-substituted ethenyloxy, propenyl-(1)-oxy, propenyl-(2)-oxy and butenyl-(3)-oxy may be mentioned as examples.

The optionally-substituted alkinyloxy group of the radical R^6 may be a straight- or branched-chain alkinyloxy group with preferably from 2 to 6, especially 2 to 4, carbon atoms. Optionally-substituted ethinyloxy, propinyl-(1)-oxy, propinyl-(2)-oxy and butinyl-(3)-oxy may be mentioned as examples.

The alkyl group R^7 is preferably methyl or ethyl.

Possible substituents of the radicals R^1 , R^2 , R^3 , R^4 , R^5 and R^6 are: acyl groups preferably with 2 to 4 carbon atoms, carboalkoxy groups preferably with 2 to 4 carbon atoms, alkoxyalyl groups preferably with 1 to 4 carbon atoms in the alkoxy part and 1 to 4 carbon atoms in the alkyl part, and aralkyl groups preferably with 1 to 4 carbon atoms in the alkyl part and 6 carbon atoms in the aryl part.

Particularly preferred compounds are those of the formula I, in which

R^2 and R^3 represent a hydrogen atom, a methyl, ethyl, n-butyl, methoxy or ethoxy group, a fluorine, chlorine or bromine atom, or a nitrile, methylmercapto, trifluoromethyl acetyl, propionyl, acetyl amino or carbomethoxy-amino group.

R^4 represents a methyl, ethyl, propyl, n-butyl, i-butyl, n-pentyl, n-hexyl, cyclopentyl, cyclohexyl, phenyl, benzyl, methoxymethyl, methoxy, ethoxy, phenoxymethyl, methylamino, ethylamino, n-butylamino, n-cyanopentyl-amino or β -methoxyethylamino group.

R^5 represents a methyl, ethyl, i-propyl, sec.-butyl, propenyl-(2) or propinyl group and

R^6 represents a methyl, ethyl, propyl, isopropyl, n-amyl, isoamyl, n-butyl, cyclohexyl, benzyl, methoxymethyl, phenoxymethyl, allyl, crotyl, methallyl, methoxy, ethoxy-i-propoxy, sec.-butoxy, propenyl-(2)-oxy, propinyl-(2)-oxy, or 2-methyl-propenyl-(2)-oxy group.

The thioureas used as starting materials are defined by the formula III. Some are known (see Olin and Dains, J. Amer. chem. Soc. 52, 3326 (1930) and US Patent Specification 2,993,502) whilst the others can easily be obtained by processes analogous to known processes. The thioureas are generally prepared from known N-acylthioureas [see, for example, "Berichte der deutschen Chemischen Gesellschaft", 6, 755 (1873); Ann. chim. (5) 11, 313 (1877); J. Amer. Chem. Soc. 62, 3274 (1940)], which are reacted, in a manner which is also known with alkylating agents such as alkyl halides, alkyl sulphates and alkyl sulphonates to give the corresponding S-alkyl-N-acyl-isothiureas [see, for example, J. org. Chem. 30, 560, (1965); Chem. Pharm. Bull. (Tokyo), 9, 245, (1961)]. These S-alkyl-N-acyl-isothiureas can then be reacted with halogenoformic acid esters or with pyrocarbonic acid dialkyl esters [compare Ber. dtsch. chem. Ges. 71, 1797 (1938)] to give the S-alkyl-N-acyl-N'-alkoxycarbonyl-isothiureas.

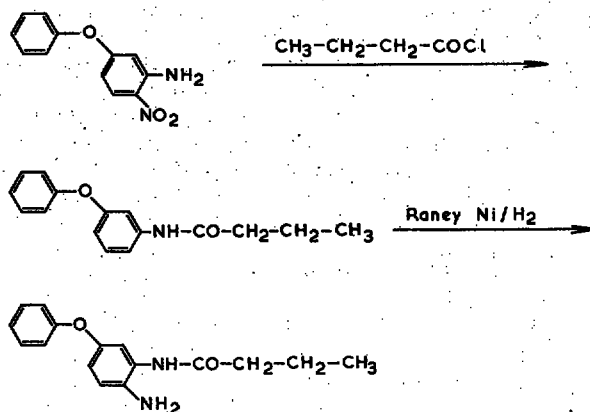
This last reaction corresponds to the principle of the known substitution of S-alkyl-isothiureas with chloroformic acid alkyl esters [compare J. Amer. chem. Soc. 52, 3326 (1930)].

The following may be mentioned as examples of the isothiureas which can be employed in accordance with the process of this invention: N,N'-bis-methoxycarbonyl-S-methyl-isothiurea (melting point 99—100°C), N,N'-bis-ethoxycarbonyl-S-methyl-isothiurea (melting point 50—51°C), N-ethoxycarbonyl-N'-propionyl-S-methyl-isothiurea (melting point 92—94°C), N-methoxycarbonyl-N'-propionyl-S-methyl-isothiurea (melting point 97—99°C), N-methoxycarbonyl-N'-ethoxyacetyl-S-methyl-isothiurea (melting point 69—70°C), N-methoxycarbonyl-N'-cyclohexylcarbonyl-S-methyl-isothiurea (melting point 67—68°C), N-methoxycarbonyl-N'-phenylacetyl-S-methyl-isothiurea (melting point 55—56°C), N-ethoxycarbonyl-N'-benzoyl-S-methyl-isothiurea (melting point 79—80°C), N-ethoxycarbonyl-N'-methoxycarbonyl-S-methyl-isothiurea (melting point 69°C), N-allyloxycarbonyl-N'-methoxycarbonyl-S-methyl-isothiurea, N-propinyloxycarbonyl-N'-methoxycarbonyl-S-methyl-isothiurea, N,N'-bis-allyloxycarbonyl-S-methyl-isothiurea and N,N'-bis-propinyloxycarbonyl-S-methyl-isothiurea.

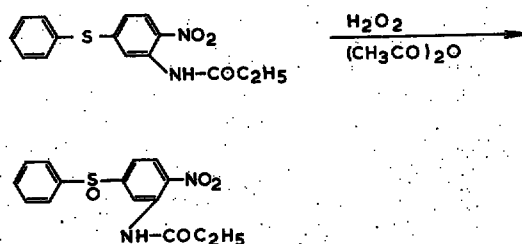
Some of the substituted 2-amino-anilides used as starting materials have not previously been disclosed. They can easily be prepared by processes analogous to processes disclosed in the literature.

Thus, for example, 2-amino-5-phenoxy-butyranilide can be obtained from the

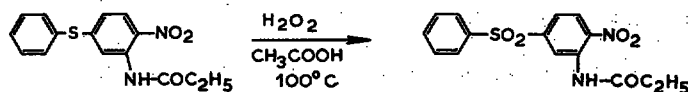
known 2-nitro-5-phenoxy-aniline by acylation with butyryl chloride to give 2-nitro-5-phenoxy-butyranilide and subsequent catalytic hydrogenation:



The phenylsulphonyl-anilides can be obtained in accordance with a method which is in itself known, by oxidation of the phenylthio-anilides with H_2O_2 in acetic anhydride or with perbenzoic acid in dioxane or chloroform, for example



Oxidation with H_2O_2 in glacial acetic acid at an elevated temperature gives the phenylsulphonyl-anilides, for example



Some phenylsulphonyl-anilines can also be obtained by reaction of sodium benzenesulphinate with 2-nitro-5-chloro-aniline in accordance with the following equation:



The following may be mentioned as examples of the 2-amino-anilides employed as starting materials: 2-amino-5-phenoxy-acetanilide, 2-amino-5-phenoxy-propionanilide, 2-amino-5-phenoxy-butyranilide, 2-amino-5-phenoxy-iso-butyranilide, 2-amino-5-phenoxy-valerianilide, 2-amino-5-phenoxy-iso-valerianilide, 2-amino-5-phenoxy-caproanilide, 2-amino-5-phenoxy-iso-caproanilide, 2-amino-5-phenoxy-cyclopentanecarboxylic acid anilide, 2-amino-5-phenoxy-cyclohexanecarboxylic acid anilide, 2-amino-5-phenoxy-phenylacetanilide, 2-amino-5-phenoxy-phenoxyacetanilide, 2-amino-5-phenoxy-benzanilide, N-(2-amino-5-phenoxy-phenyl)-N'-

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5	methyl - urea, N - (2 - amino - 5 - phenoxy - phenyl) - N' - ethyl - urea, N - (2 - amino - 5 - phenoxy - phenyl) - N' - butyl - urea, N - (2 - amino - 5 - phenoxy - phenyl) - N' - ω - cyclopentyl - urea, N - (2 - amino - 5 - phenoxy - phenyl) - N' - β - methoxyethyl - urea, N - (2 - amino - 5 - phenoxy - phenyl) - N' - benzyl - urea, N - (2 - amino - 5 - phenoxy - phenyl) - N' - phenyl - urea, 2 - amino - 5 - (4 - methyl - phenoxy) - propionanilide, 2 - amino - 5 - (4 - methyl - phenoxy) - butyranilide, 2 - amino - 5 - (4 - methyl - phenoxy) - acetanilide, 2 - amino - 5 - (3 - methyl - phenoxy) - propionanilide, 2 - amino - 5 - (3 - methyl - phenoxy) - butyranilide, 2 - amino - 5 - (3 - methyl - phenoxy) - acetanilide, 2 - amino - 5 - (2 - methyl - phenoxy) - propionanilide, 2 - amino - 5 - (2 - methyl - phenoxy) - butyranilide, 2 - amino - 5 - (2 - methyl - phenoxy) - acetanilide, 2 - amino - 5 - (4 - chloro - phenoxy) - propionanilide, 2 - amino - 5 - (4 - chloro - phenoxy) - butyranilide, 2 - amino - 5 - (4 - chloro - phenoxy) - acetanilide, 2 - amino - 5 - (3 - chloro - phenoxy) - propionanilide, 2 - amino - 5 - (3 - chloro - phenoxy) - butyranilide, 2 - amino - 5 - (3 - chloro - phenoxy) - acetanilide, 2 - amino - 5 - (2 - chloro - phenoxy) - propionanilide, 2 - amino - 5 - (2 - chloro - phenoxy) - butyranilide, 2 - amino - 5 - (2 - chloro - phenoxy) - acetanilide, 2 - amino - 5 - (4 - methoxy - phenoxy) - propionanilide, 2 - amino - 5 - (4 - methoxy - phenoxy) - butyranilide, 2 - amino - 5 - (4 - methoxy - phenoxy) - acetanilide, 2 - amino - 5 - (3 - methoxy - phenoxy) - propionanilide, 2 - amino - 5 - (3 - methoxy - phenoxy) - butyranilide, 2 - amino - 5 - (3 - methoxy - phenoxy) - acetanilide, 2 - amino - 5 - (4 - methylthio - phenoxy) - propionanilide, 2 - amino - 5 - (4 - methylthio - phenoxy) - butyranilide, 2 - amino - 5 - (4 - methylthio - phenoxy) - acetanilide, 2 - amino - 5 - (3 - methylthio - phenoxy) - propionanilide, 2 - amino - 5 - (3 - methylthio - phenoxy) - butyranilide, 2 - amino - 5 - (3 - methylthio - phenoxy) - acetanilide, 2 - amino - 5 - (4 - cyano - phenoxy) - propionanilide, 2 - amino - 5 - (4 - cyano - phenoxy) - butyranilide, 2 - amino - 5 - (4 - cyano - phenoxy) - acetanilide, 2 - amino - 5 - (3 - cyano - phenoxy) - propionanilide, 2 - amino - 5 - (3 - cyano - phenoxy) - butyranilide, 2 - amino - 5 - (3 - cyano - phenoxy) - acetanilide, 2 - amino - 5 - (4 - acetyl - phenoxy) - propionanilide, 2 - amino - 5 - (4 - acetyl - phenoxy) - butyranilide, 2 - amino - 5 - (4 - acetyl - phenoxy) - acetanilide, 2 - amino - 5 - (4 - propionyl - phenoxy) - propionanilide, 2 - amino - 5 - (4 - propionyl - phenoxy) - butyranilide, 2 - amino - 5 - (4 - propionyl - phenoxy) - acetanilide, 2 - amino - 5 - (4 - acetylaminophenoxy) - propionanilide, 2 - amino - 5 - (4 - acetylaminophenoxy) - butyranilide, 2 - amino - 5 - (4 - acetylaminophenoxy) - acetanilide, 2 - amino - 5 - (4 - methoxycarbonylamino - phenoxy) - propionanilide, 2 - amino - 5 - (4 - 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phenoxy) - acetanilide, 2 - amino - 5 - (4 - bromo - phenoxy) - propionanilide, 2 - amino - 5 - (4 - bromo - phenoxy) - butyranilide, 2 - amino - 5 - (4 - bromo - phenoxy) - acetanilide, 2 - amino - 5 - (3,5 - dimethyl - phenoxy) - propionanilide, 2 - amino - 5 - (dimethyl - phenoxy) - butyranilide, 2 - amino - 5 - (3,5 - dimethyl - phenoxy) - acetanilide, 2 - amino - 5 - (4 - butyl - phenoxy) - propionanilide, 2 - amino - 5 - (4 - butyl - phenoxy) - butyranilide, 2 - amino - 5 - (4 - butyl - phenoxy) - acetanilide, 2 - amino - 5 - (3 - butyl - phenoxy) - propionanilide, 2 - amino - 5 - (3 - butyl - phenoxy) - butyranilide, 2 - amino - 5 - (3 - butyl - phenoxy) - acetanilide, 2 - amino - 4 - phenoxy - acetanilide, 2 - amino - 4 - phenoxy - propionanilide, 2 - amino - 4 - phenoxy - butyranilide, 2 - amino - 4 - phenoxy - iso - butyranilide, 2 - amino - 4 - phenoxy - valerianilide, 2 - amino - 4 - phenoxy - iso - valerianilide, 2 - amino - 4 - phenoxy - caproanilide, 2 - amino - 4 - phenoxy - iso - caproanilide, 2 - amino - 4 - phenoxy - cyclopentanecarboxylic acid anilide, 2 - amino - 4 - phenoxy - cyclohexanecarboxylic acid anilide, 2 - amino - 4 - phenoxy - phenyl - acetanilide, 2 - amino - 4 - phenoxy - phenoxyacetanilide, 2 - amino - 4 - phenoxy - benzanilide, N - (2 - amino - 4 - phenoxy - phenyl) - N' - methyl - urea, N - (2 - amino - 4 - phenoxy - phenyl) - N' - ethyl - urea, N - (2 - amino - 4 - phenoxy - phenyl) - N' - butyl - urea, N - (2 - amino - 4 - phenoxy - phenyl) - N' - ω - cyano -	5
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15		15
20		20
25		25
30		30
35		35
40		40
45		45
50		50
55		55
60		60
65		65

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	pentyl - urea, N - (2 - amino - 4 - phenoxy - phenyl) - N' - β - methoxyethyl - urea, N - (2 - amino - 4 - phenoxy - phenyl) - N' - benzyl - urea, N - (2 - amino - 4 - phenoxy - phenyl) - N' - phenyl - urea, 2 - amino - 4 - (4 - methyl - phenoxy) - propion-	
5	anilide, 2 - amino - 4 - (4 - methyl - phenoxy) - butyranilide, 2 - amino - 4 - (4 - methyl - phenoxy) - acetanilide, 2 - amino - 4 - (3 - methyl - phenoxy) - propion-	5
	anilide, 2 - amino - 4 - (3 - methyl - phenoxy) - butyranilide, 2 - amino - 4 - (3 - methyl - phenoxy) - acetanilide, 2 - amino - 4 - (2 - methyl - phenoxy) - propion-	
10	anilide, 2 - amino - 4 - (2 - methyl - phenoxy) - butyranilide, 2 - amino - 4 - (2 - methyl - phenoxy) - acetanilide, 2 - amino - 4 - (4 - chloro - phenoxy) - propion-	10
	anilide, 2 - amino - 4 - (4 - chloro - phenoxy) - butyranilide, 2 - amino - 4 - (4 - chloro - phenoxy) - acetanilide, 2 - amino - 4 - (3 - chloro - phenoxy) - propion-	
15	anilide, 2 - amino - 4 - (3 - chloro - phenoxy) - butyranilide, 2 - amino - 4 - (3 - chloro - phenoxy) - acetanilide, 2 - amino - 4 - (2 - chloro - phenoxy) - propion-	15
	anilide, 2 - amino - 4 - (2 - chloro - phenoxy) - butyranilide, 2 - amino - 4 - (2 - chloro - phenoxy) - acetanilide, 2 - amino - 4 - (4 - methoxy - phenoxy) - propion-	
	anilide, 2 - amino - 4 - (4 - methoxy - phenoxy) - butyranilide, 2 - amino - 4 - (4 - methoxy - phenoxy) - acetanilide, 2 - amino - 4 - (3 - methoxy - phenoxy) - propion-	
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	anilide, 2 - amino - 4 - (4 - methylthio - phenoxy) - butyranilide, 2 - amino - 4 - (4 - methylthio - phenoxy) - acetanilide, 2 - amino - 4 - (3 - methylthio - phen-	
25	oxy) - propionanilide, 2 - amino - 4 - (3 - methylthio - phenoxy) - butyranilide, 2 - amino - 4 - (3 - methylthio - phenoxy) - acetanilide, 2 - amino - 4 - (4 - cyano - phenoxy) - butyranilide, 2 - amino - 4 - (4 - cyano - phenoxy) - acetanilide, 2 - amino - 4 - (3 - cyano - phenoxy) - propion-	25
	anilide, 2 - amino - 4 - (3 - cyano - phenoxy) - butyranilide, 2 - amino - 4 - (3 - cyano - phenoxy) - acetanilide, 2 - amino - 4 - (4 - acetyl - phenoxy) - propion-	
30	anilide, 2 - amino - 4 - (4 - acetyl - phenoxy) - butyranilide, 2 - amino - 4 - (4 - acetyl - phenoxy) - acetanilide, 2 - amino - 4 - (4 - propionyl - phenoxy) - propionanilide, 2 - amino - 4 - (4 - propionyl - phenoxy) - butyranilide, 2 - amino - 4 - (4 - propionyl - phenoxy) - acetanilide, 2 - amino - 4 - (4 - acetyl - phenoxy) - propion-	30
	anilide, 2 - amino - 4 - (4 - acetyl - phenoxy) - butyranilide, 2 - amino - 4 - (4 - acetyl - phenoxy) - acetanilide, 2 - amino - 4 - (4 - methoxycarbonylamino - phenoxy) - propionanilide, 2 - amino - 4 - (4 - methoxycarbonylamino - phenoxy) - butyranilide, 2 - amino - 4 - (4 - methoxycarbonylamino - phenoxy) - acetanilide, 2 - amino - 4 - (4 - methoxycarbonyl - phenoxy) - propionanilide, 2 - amino - 4 - (4 - methoxycarbonyl - phenoxy) - butyranilide, 2 - amino - 4 - (4 - methoxycarbonyl - phenoxy) - acetanilide, 2 - amino - 4 - (3,4 - dimethyl - phenoxy) - propionanilide, 2 - amino - 4 - (3,4 - dimethyl - phenoxy) - butyranilide, 2 - amino - 4 - (3,4 - di-	
40	methyl - phenoxy) - acetanilide, 2 - amino - 4 - (2 - methyl - 4 - chloro - phenoxy) - propionanilide, 2 - amino - 4 - (2 - methyl - 4 - chloro - phenoxy) - butyranilide, 2 - amino - 4 - (2 - methyl - 4 - chloro - phenoxy) - acetanilide, 2 - amino - 4 - (4 - ethyl - phenoxy) - propionanilide, 2 - amino - 4 - (4 - ethyl - phenoxy) - butyranilide, 2 - amino - 4 - (4 - ethyl - phenoxy) - acetanilide, 2 - amino - 4 - (3,4 - dichloro - phen-	40
45	oxy) - propionanilide, 2 - amino - 4 - (3,4 - dichloro - phenoxy) - butyranilide, 2 - amino - 4 - (3,4 - dichloro - phenoxy) - acetanilide, 2 - amino - 4 - (4 - bromo - phenoxy) - propionanilide, 2 - amino - 4 - (4 - bromo - phenoxy) - butyranilide, 2 - amino - 4 - (4 - bromo - phenoxy) - acetanilide, 2 - amino - 4 - (3,5 - dimethyl - phenoxy) - propionanilide, 2 - amino - 4 - (3,5 - dimethyl - phenoxy) - butyranilide, 2 - amino - 4 - (3,5 - dimethyl - phenoxy) - acetanilide, 2 - amino - 4 - (4 - butyl - phenoxy) - propionanilide, 2 - amino - 4 - (4 - butyl - phenoxy) - butyranilide, 2 - amino - 4 - (3 - butyl - phenoxy) - propionanilide, 2 - amino - 4 - (3 - butyl - phenoxy) - butyranilide, 2 - amino - 4 - (3 - butyl - phenoxy) - acetanilide, 2 - amino - 5 - phenylthio - acetanilide, 2 - amino - 5 - phenylthio - propionanilide, 2 - amino - 5 - phenylthio - butyranilide, 2 - amino - 5 - phenylthio - iso - butyranilide, 2 - amino - 5 - phenylthio - valerianilide, 2 - amino - 5 - phenylthio - caproanilide, 2 - amino - 5 - phenylthio - iso - caproanilide, 2 - amino - 5 - phenylthio - cyclopentanecarboxylic acid anilide, 2 - amino - 5 - phenylthio - cyclohexanecarboxylic acid anilide, 2 - amino - 5 - phenylthio - phenylacetanilide, 2 - amino - 5 - phenylthio - phenoxyacetanilide, 2 - amino - 5 - phenylthio - benzanilide, N - (2 - amino - 5 - phenylthio - phenyl) - N' - methyl - urea, 2 - amino - 5 - phenylthio - methoxy-	45
50	acetanilide, N - (2 - amino - 5 - phenylthio - phenyl) - N' - butyl - urea, N - (2 - amino - 5 - phenylthio - phenyl) - N' - ω - cyanopentyl - urea, N - (2 - amino - 5 - phenylthio - phenyl) - N' - β - methoxyethyl - urea, N - (2 - amino - 5 - phenylthio - phenyl) - N' -	50
55		55
60		60
65		65

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	benzyl - urea, N - (2 - amino - 5 - phenylthio - phenyl) - N' - phenyl - urea, 2 - amino - 5 - (4 - methyl - phenylthio) - propionanilide, 2 - amino - 5 - (4 - methyl - phenylthio) - butyranilide, 2 - amino - 5 - (4 - methyl - phenylthio) - acetanilide, 2 - amino - 5 - (3 - methyl - phenylthio) - propionanilide, 2 - amino - 5 - (3 - methyl - phenylthio) - butyranilide, 2 - amino - 5 - (3 - methyl - phenylthio) - acetanilide, 2 - amino - 5 - (2 - methyl - phenylthio) - propionanilide, 2 - amino - 5 - (2 - methyl - phenylthio) - butyranilide, 2 - amino - 5 - (2 - methyl - phenylthio) - acetanilide, 2 - amino - 5 - (4 - chloro - phenylthio) - propionanilide, 2 - amino - 5 - (4 - chloro - phenylthio) - butyranilide, 2 - amino - 5 - (4 - chloro - phenylthio) - acetanilide, 2 - amino - 5 - (3 - chloro - phenylthio) - propionanilide, 2 - amino - 5 - (3 - chloro - phenylthio) - butyranilide, 2 - amino - 5 - (3 - chloro - phenylthio) - acetanilide, 2 - amino - 5 - (2 - chloro - phenylthio) - propionanilide, 2 - amino - 5 - (2 - chloro - phenylthio) - butyranilide, 2 - amino - 5 - (2 - chloro - phenylthio) - acetanilide, 2 - amino - 5 - (4 - methoxy - phenylthio) - propionanilide, 2 - amino - 5 - (4 - methoxy - phenylthio) - butyranilide, 2 - amino - 5 - (4 - methoxy - phenylthio) - acetanilide, 2 - amino - 5 - (3 - methoxy - phenylthio) - propionanilide, 2 - amino - 5 - (3 - methoxy - phenylthio) - butyranilide, 2 - amino - 5 - (3 - methoxy - phenylthio) - acetanilide, 2 - amino - 5 - (4 - methylthio - phenylthio) - propionanilide, 2 - amino - 5 - (4 - methylthio - phenylthio) - butyranilide, 2 - amino - 5 - (4 - methylthio - phenylthio) - acetanilide, 2 - amino - 5 - (3 - methylthio - phenylthio) - propionanilide, 2 - amino - 5 - (3 - methylthio - phenylthio) - butyranilide, 2 - amino - 5 - (3 - methylthio - phenylthio) - acetanilide, 2 - amino - 5 - (4 - cyano - phenylthio) - propionanilide, 2 - amino - 5 - (4 - cyano - phenylthio) - butyranilide, 2 - amino - 5 - (4 - cyano - phenylthio) - acetanilide, 2 - amino - 5 - (3 - cyano - phenylthio) - propionanilide, 2 - amino - 5 - (3 - cyano - phenylthio) - butyranilide, 2 - amino - 5 - (3 - cyano - phenylthio) - acetanilide, 2 - amino - 5 - (4 - acetyl - phenylthio) - propionanilide, 2 - amino - 5 - (4 - acetyl - phenylthio) - butyranilide, 2 - amino - 5 - (4 - acetyl - phenylthio) - acetanilide, 2 - amino - 5 - (4 - propionyl - phenylthio) - propionanilide, 2 - amino - 5 - (4 - propionyl - phenylthio) - butyranilide, 2 - amino - 5 - (4 - propionyl - phenylthio) - acetanilide, 2 - amino - 5 - (4 - acetyl amino - phenylthio) - propionanilide, 2 - amino - 5 - (4 - acetyl amino - phenylthio) - butyranilide, 2 - amino - 5 - (4 - acetyl amino - phenylthio) - acetanilide, 2 - amino - 5 - (4 - methoxycarbonyl amino - phenylthio) - propionanilide, 2 - amino - 5 - (4 - methoxycarbonyl amino - phenylthio) - butyranilide, 2 - amino - 5 - (4 - methoxycarbonyl amino - phenylthio) - acetanilide, 2 - amino - 5 - (4 - methoxycarbonyl - phenylthio) - propionanilide, 2 - amino - 5 - (4 - methoxycarbonyl - phenylthio) - butyranilide, 2 - amino - 5 - (3,4 - dimethyl - phenylthio) - propionanilide, 2 - amino - 5 - (3,4 - dimethyl - phenylthio) - butyranilide, 2 - amino - 5 - (3,4 - dimethyl - phenylthio) - acetanilide, 2 - amino - 5 - (2 - methyl - 4 - chloro - phenylthio) - propionanilide, 2 - amino - 5 - (2 - methyl - 4 - chloro - phenylthio) - butyranilide, 2 - amino - 5 - (2 - methyl - 4 - chloro - phenylthio) - acetanilide, 2 - amino - 5 - (4 - ethyl - phenylthio) - propionanilide, 2 - amino - 5 - (4 - ethyl - phenylthio) - butyranilide, 2 - amino - 5 - (4 - ethyl - phenylthio) - acetanilide, 2 - amino - 5 - (3,4 - dichloro - phenylthio) - propionanilide, 2 - amino - 5 - (3,4 - dichloro - phenylthio) - butyranilide, 2 - amino - 5 - (3,4 - dichloro - phenylthio) - acetanilide, 2 - amino - 5 - (4 - bromo - phenylthio) - propionanilide, 2 - amino - 5 - (4 - bromo - phenylthio) - butyranilide, 2 - amino - 5 - (4 - bromo - phenylthio) - acetanilide, 2 - amino - 5 - (3,5 - dimethyl - phenylthio) - propionanilide, 2 - amino - 5 - (3,5 - dimethyl - phenylthio) - butyranilide, 2 - amino - 5 - (3,5 - dimethyl - phenylthio) - acetanilide, 2 - amino - 5 - (4 - butyl - phenylthio) - propionanilide, 2 - amino - 5 - (4 - butyl - phenylthio) - butyranilide, 2 - amino - 5 - (4 - butyl - phenylthio) - acetanilide, 2 - amino - 5 - (3 - butyl - phenylthio) - propionanilide, 2 - amino - 5 - (3 - butyl - phenylthio) - butyranilide, 2 - amino - 5 - (3 - butyl - phenylthio) - acetanilide, 2 - amino - 4 - phenylthio - acetanilide, 2 - amino - 4 - phenylthio - propionanilide, 2 - amino - 4 - phenylthio - butyranilide, 2 - amino - 4 - phenylthio - iso - butyranilide, 2 - amino - 4 - phenylthio - valerianilide, 2 - amino - 4 - phenylthio - iso - valerianilide, 2 - amino - 4 - phenylthio - caproanilide, 2 - amino - 4 - phenylthio - cyclopentane - carboxylic acid anilide, 2 - amino - 4 - phenylthio - cyclohexane - carboxylic acid anilide, 2 - amino - 4 - phenylthio - phenylacetanilide, 2 - amino - 4 - phenylthio - phenoxyacetanilide, 2 - amino - 4 - phenylthio - benzanilide, N - (2 - amino - 4 - phenylthio - phenyl) - N' - methyl - urea, N - (2 - amino - 4 - phenylthio - phenyl) - N' - ethyl - urea, N - (2 - amino - 4 - phenylthio - phenyl) - N' - butyl - urea, N - (2 - amino - 4 - phenylthio - phenyl) - N' - ω - cyanopentyl - urea, N - (2 - amino - 4 - phenylthio - phenyl) - N' - β - methoxyethyl - urea, N - (2 - amino - 4 - phenylthio - phenyl) - N' -	
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60		60
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5	phenyl) - N' - benzyl - urea, N - (2 - amino - 4 - phenylthio - phenyl) - N' - phenyl- urea, 2 - amino - 4 - (4 - methyl - phenylthio) - propionanilide, 2 - amino - 4 - (4 - methyl - phenylthio) - butyranilide, 2 - amino - 4 - (4 - methyl - phenylthio) - acet- anilide, 2 - amino - 4 - (3 - methyl - phenylthio) - propionanilide, 2 - amino - 4 - (3 - methyl - phenylthio) - butyranilide, 2 - amino - 4 - (3 - methyl - phenylthio) - acet- anilide, 2 - amino - 4 - (2 - methyl - phenylthio) - propionanilide, 2 - amino - 4 - (2 - methyl - phenylthio) - butyranilide, 2 - amino - 4 - (2 - methyl - phenylthio) - acet- anilide, 2 - amino - 4 - (4 - chloro - phenylthio) - propionanilide, 2 - amino - 4 - (4 - chloro - phenylthio) - butyranilide, 2 - amino - 4 - (4 - chloro - phenylthio) - acet- anilide, 2 - amino - 4 - (3 - chloro - phenylthio) - propionanilide, 2 - amino - 4 - (3 - chloro - phenylthio) - butyranilide, 2 - amino - 4 - (3 - chloro - phenylthio) - acet- anilide, 2 - amino - 4 - (2 - chloro - phenylthio) - propionanilide, 2 - amino - 4 - (2 - chloro - phenylthio) - butyranilide, 2 - amino - 4 - (2 - chloro - phenylthio) - acet- anilide, 2 - amino - 4 - (4 - methoxy - phenylthio) - propionanilide, 2 - amino - 4 - (4 - methoxy - phenylthio) - butyranilide, 2 - amino - 4 - (4 - methoxy - phenylthio) - acet- anilide, 2 - amino - 4 - (3 - methoxy - phenylthio) - propionanilide, 2 - amino - 4 - (3 - methoxy - phenylthio) - butyranilide, 2 - amino - 4 - (3 - methoxy - phenylthio) - phenyl- thio) - acetanilide, 2 - amino - 4 - (4 - methylthio - phenylthio) - propionanilide, 2 - amino - 4 - (4 - methylthio - phenylthio) - butyranilide, 2 - amino - 4 - (4 - methyl- thio - phenylthio) - acetanilide, 2 - amino - 4 - (3 - methylthio - phenylthio) - propion- anilide, 2 - amino - 4 - (3 - methylthio - phenylthio) - butyranilide, 2 - amino - 4 - (3 - methylthio - phenylthio) - acetanilide, 2 - amino - 4 - (4 - cyano - phenylthio) - butyr- anilide, 2 - amino - 4 - (4 - cyano - phenylthio) - acetanilide, 2 - amino - 4 - (3 - cyano - phenylthio) - propionanilide, 2 - amino - 4 - (3 - cyano - phenylthio) - butyranilide, 2 - amino - 4 - (3 - cyano - phenylthio) - acetanilide, 2 - amino - 4 - (4 - acetyl- phenylthio) - propionanilide, 2 - amino - 4 - (4 - acetyl - phenylthio) - butyranilide, 2 - amino - 4 - (4 - acetyl - phenylthio) - acetanilide, 2 - amino - 4 - (4 - propionyl- phenylthio) - propionanilide, 2 - amino - 4 - (4 - propionyl - phenylthio) - butyr- anilide, 2 - amino - 4 - (4 - propionyl - phenylthio) - acetanilide, 2 - amino - 4 - (4 - acetylamino - phenylthio) - propionanilide, 2 - amino - 4 - (4 - acetylamino - phenyl- thio) - butyranilide, 2 - amino - 4 - (4 - acetylamino - phenylthio) - acetanilide, 2 - amino - 4 - (4 - methoxycarbonylamino - phenylthio) - propionanilide, 2 - amino - 4 - (4 - methoxycarbonylamino - phenylthio) - butyranilide, 2 - amino - 4 - (4 - methoxy- carbonyl - phenylthio) - propionanilide, 2 - amino - 4 - (4 - methoxycarbonyl - phenylthio) - acet- anilide, 2 - amino - 4 - (3,4 - dimethyl - phenylthio) - propionanilide, 2 - amino - 4 - (3,4 - dimethyl - phenylthio) - butyranilide, 2 - amino - 4 - (3,4 - dimethyl - phenyl- thio) - acetanilide, 2 - amino - 4 - (2 - methyl - 4 - chloro - phenylthio) - propion- anilide, 2 - amino - 4 - (2 - methyl - 4 - chloro - phenylthio) - butyranilide, 2 - amino - 4 - (2 - methyl - 4 - chloro - phenylthio) - acetanilide, 2 - amino - 4 - (4 - ethyl - phenylthio) - propionanilide, 2 - amino - 4 - (4 - ethyl - phenylthio) - butyr- anilide, 2 - amino - 4 - (4 - ethyl - phenylthio) - acetanilide, 2 - amino - 4 - (3,4 - dichloro - phenylthio) - propionanilide, 2 - amino - 4 - (3,4 - dichloro - phenylthio) - butyranilide, 2 - amino - 4 - (3,4 - dichloro - phenylthio) - acetanilide, 2 - amino - 4 - (4 - bromo - phenylthio) - propionanilide, 2 - amino - 4 - (4 - bromo - phenyl- thio) - butyranilide, 2 - amino - 4 - (4 - bromo - phenylthio) - acetanilide, 2 - amino - 4 - (3,5 - dimethyl - phenylthio) - propionanilide, 2 - amino - 4 - (3,5 - dimethyl - phenylthio) - butyranilide, 2 - amino - 4 - (3,5 - dimethyl - phenylthio) - acetanilide, 2 - amino - 4 - (4 - butyl - phenylthio) - propionanilide, 2 - amino - 4 - (4 - butyl - phenylthio) - butyranilide, 2 - amino - 4 - (4 - butyl - phenylthio) - acetanilide, 2 - amino - 4 - (3 - butyl - phenylthio) - propionanilide, 2 - amino - 4 - (3 - butyl - phenylthio) - butyranilide, 2 - amino - 4 - (3 - butyl - phenylthio) - acetanilide, 2 - amino - 5 - phenylsulphanyl - acetanilide, 2 - amino - 5 - phenylsulphanyl - propion- anilide, 2 - amino - 5 - phenylsulphanyl - butyranilide, 2 - amino - 5 - phenyl- sulphanyl - iso - butyranilide, 2 - amino - 5 - phenylsulphanyl - valeranilide, 2 - amino - 5 - phenylsulphanyl - iso - valeranilide, 2 - amino - 5 - phenylsulphanyl - caproanilide, 2 - amino - 5 - phenylsulphanyl - iso - caproanilide, 2 - amino - 5 - phenylsulphanyl - cyclopentanecarboxylic acid anilide, 2 - amino - 5 - phenyl- sulphanyl - cyclohexanecarboxylic acid anilide, 2 - amino - 5 - phenylsulphanyl - phenylacetanilide, 2 - amino - 5 - phenylsulphanyl - phenoxyacetanilide, 2 - amino - 5 - phenylsulphanyl - benzanilide, N - (2 - amino - 5 - phenylsulphanyl - phenyl) - N' - methyl - urea, 2 - amino - 5 - phenylsulphanyl - methoxyacetanilide, N - (2 - amino - 5 - phenylsulphanyl - phenyl) - N' - butyl - urea, N - (2 - amino - 5 - phenylsulphanyl -	5 10 15 20 25 30 35 40 45 50 55 60 65
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[illegible]

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	sulphinyl - iso - caproanilide, 2 - amino - 4 - phenylsulphinyl - cyclopentanecarboxylic acid anilide, 2 - amino - 4 - phenylsulphinyl - cyclohexanecarboxylic acid anilide, 2 - amino - 4 - phenylsulphinyl - phenylacetanilide, 2 - amino - 4 - phenylsulphinyl - phenoxy - acetanilide, 2 - amino - 4 - phenylsulphinyl - benzanilide, N - (2 - amino - 4 - phenylsulphinyl - phenyl) - N' - methyl - urea, N - (2 - amino - 4 - phenylsulphinyl - phenyl) - N' - ethyl - urea, N - (2 - amino - 4 - phenylsulphinyl - phenyl) - N' - butyl - urea, N - (2 - amino - 4 - phenylsulphinyl - phenyl) - N' - ω -cyanopentyl - urea, N - (2 - amino - 4 - phenylsulphinyl - phenyl) - N' - β - methoxyethyl - urea, N - (2 - amino - 4 - phenylsulphinyl - phenyl) - N' - benzyl - urea, N - (2 - amino - 4 - phenylsulphinyl - phenyl) - N' - phenyl - urea, 2 - amino - 4 - (4 - methyl - phenylsulphinyl) - propionanilide, 2 - amino - 4 - (4 - methyl - phenylsulphinyl) - butyranilide, 2 - amino - 4 - (4 - methyl - phenylsulphinyl) - acetanilide, 2 - amino - 4 - (3 - methyl - phenylsulphinyl) - propionanilide, 2 - amino - 4 - (3 - methyl - phenylsulphinyl) - butyranilide, 2 - amino - 4 - (3 - methyl - phenylsulphiny) - acetanilide, 2 - amino - 4 - (2 - methyl - phenylsulphiny) - propionanilide, 2 - amino - 4 - (2 - methyl - phenylsulphiny) - butyranilide, 2 - amino - 4 - (2 - methyl - phenylsulphiny) - acetanilide, 2 - amino - 4 - (4 - chloro - phenylsulphiny) - propionanilide, 2 - amino - 4 - (4 - chloro - phenylsulphiny) - butyranilide, 2 - amino - 4 - (3 - chloro - phenylsulphiny) - propionanilide, 2 - amino - 4 - (3 - chloro - phenylsulphiny) - butyranilide, 2 - amino - 4 - (3 - chloro - phenylsulphiny) - acetanilide, 2 - amino - 4 - (2 - chloro - phenylsulphiny) - propionanilide, 2 - amino - 4 - (2 - chloro - phenylsulphiny) - acetanilide, 2 - amino - 4 - (4 - methoxy - phenylsulphiny) - propionanilide, 2 - amino - 4 - (4 - methoxy - phenylsulphiny) - butyranilide, 2 - amino - 4 - (4 - methoxy - phenylsulphiny) - acetanilide, 2 - amino - 4 - (3 - methoxy - phenylsulphiny) - propionanilide, 2 - amino - 4 - (3 - methoxy - phenylsulphiny) - butyranilide, 2 - amino - 4 - (3 - methoxy - phenylsulphiny) - acetanilide, 2 - amino - 4 - (4 - methylthio - phenylsulphiny) - propionanilide, 2 - amino - 4 - (4 - methylthio - phenylsulphiny) - butyranilide, 2 - amino - 4 - (4 - methylthio - phenylsulphiny) - acetanilide, 2 - amino - 4 - (3 - methylthio - phenylsulphiny) - propionanilide, 2 - amino - 4 - (3 - methylthio - phenylsulphiny) - butyranilide, 2 - amino - 4 - (3 - methylthio - phenylsulphiny) - acetanilide, 2 - amino - 4 - (4 - cyano - phenylsulphiny) - propionanilide, 2 - amino - 4 - (4 - cyano - phenylsulphiny) - butyranilide, 2 - amino - 4 - (4 - cyano - phenylsulphiny) - acetanilide, 2 - amino - 4 - (3 - cyano - phenylsulphiny) - propionanilide, 2 - amino - 4 - (3 - cyano - phenylsulphiny) - butyranilide, 2 - amino - 4 - (4 - acetylphenylsulphiny) - propionanilide, 2 - amino - 4 - (4 - acetylphenylsulphiny) - butyranilide, 2 - amino - 4 - (4 - acetylphenylsulphiny) - acetanilide, 2 - amino - 4 - (4 - propionyl - phenylsulphiny) - butyranilide, 2 - amino - 4 - (4 - propionyl - phenylsulphiny) - acetanilide, 2 - amino - 4 - (4 - acetyl amino - phenylsulphiny) - propionanilide, 2 - amino - 4 - (4 - acetyl amino - phenylsulphiny) - butyranilide, 2 - amino - 4 - (4 - acetyl amino - phenylsulphiny) - acetanilide, 2 - amino - 4 - (4 - methoxycarbonyl amino - phenylsulphiny) - propionanilide, 2 - amino - 4 - (4 - methoxycarbonyl amino - phenylsulphiny) - butyranilide, 2 - amino - 4 - (4 - methoxycarbonyl amino - phenylsulphiny) - acetanilide, 2 - amino - 4 - (4 - methoxycarbonyl - phenylsulphiny) - butyranilide, 2 - amino - 4 - (4 - methoxycarbonyl - phenylsulphiny) - acetanilide, 2 - amino - 4 - (3,4 - dimethyl - phenylsulphiny) - propionanilide, 2 - amino - 4 - (3,4 - dimethyl - phenylsulphiny) - butyranilide, 2 - amino - 4 - (3,4 - dimethyl - phenylsulphiny) - acetanilide, 2 - amino - 4 - (2 - methyl - 4 - chloro - phenylsulphiny) - propionanilide, 2 - amino - 4 - (2 - methyl - 4 - chloro - phenylsulphiny) - butyranilide, 2 - amino - 4 - (2 - methyl - 4 - chloro - phenylsulphiny) - acetanilide, 2 - amino - 4 - (4 - ethyl - phenylsulphiny) - propionanilide, 2 - amino - 4 - (4 - ethyl - phenylsulphiny) - butyranilide, 2 - amino - 4 - (4 - ethyl - phenylsulphiny) - acetanilide, 2 - amino - 4 - (3,4 - dichloro - phenylsulphiny) - propionanilide, 2 - amino - 4 - (3,4 - dichloro - phenylsulphiny) - butyranilide, 2 - amino - 4 - (4 - bromo - phenylsulphiny) - propionanilide, 2 - amino - 4 - (4 - bromo - phenylsulphiny) - butyranilide, 2 - amino - 4 - (3,5 - dimethyl - phenylsulphiny) - propionanilide, 2 - amino - 4 - (3,5 - dimethyl - phenylsulphiny) - butyranilide, 2 - amino - 4 - (3,5 - dimethyl - phenylsulphiny) - acetanilide, 2 - amino - 4 - (4 - butyl - phenylsulphiny) - propionanilide, 2 - amino - 4 - (4 - butyl - phenylsulphiny) - butyranilide, 2 - amino - 4 - (4 - butyl - phenyl-	
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	sulphiny) - acetanilide, 2 - amino - 4 - (3 - butyl - phenylsulphiny) - propionanilide, 2 - amino - 4 - (3 - butyl - phenylsulphiny) - butyranilide, 2 - amino - 4 - (3 - butyl - phenylsulphiny) - acetanilide, 2 - amino - 5 - phenylsulphonyl - acetanilide, 2 - amino - 5 - phenylsulphonyl - propionanilide, 2 - amino - 5 - phenylsulphonyl - butyranilide, 2 - amino - 5 - phenylsulphonyl - iso - butyranilide, 2 - amino - 5 - phenylsulphonyl - valerianilide, 2 - amino - 5 - phenylsulphonyl - iso - valerianilide, 2 - amino - 5 - phenylsulphonyl - caproanilide, 2 - amino - 5 - phenylsulphonyl - iso - caproanilide, 2 - amino - 5 - phenylsulphonyl - cyclopentanecarboxylic acid anilide, 2 - amino - 5 - phenylsulphonyl - cyclohexanecarboxylic acid anilide, 2 - amino - 5 - phenylsulphonyl - phenylacetanilide, 2 - amino - 5 - phenylsulphonyl - phenoxyacetanilide, 2 - amino - 5 - phenylsulphonyl - benzanilide, N - (2 - amino - 5 - phenylsulphonyl - phenyl) - N' - methyl - urea, N - (2 - amino - 5 - phenylsulphonyl - phenyl) - N' - ethyl - urea, N - (2 - amino - 5 - phenylsulphonyl - phenyl) - N' - butyl - urea, N - (2 - amino - 5 - phenylsulphonyl - phenyl) - N' - ω - cyanopentyl - urea, N - (2 - amino - 5 - phenylsulphonyl - phenyl) - N' - β - methoxyethyl - urea, N - (2 - amino - 5 - phenylsulphonyl - phenyl) - N' - benzyl - urea, N - (2 - amino - 5 - phenylsulphonyl - phenyl) - N' - phenyl - urea, 2 - amino - 5 - (4 - methyl - phenylsulphonyl) - propionanilide, 2 - amino - 5 - (4 - methyl - phenylsulphonyl) - butyranilide, 2 - amino - 5 - (4 - methyl - phenylsulphonyl) - acetanilide, 2 - amino - 5 - (3 - methyl - phenylsulphonyl) - propionanilide, 2 - amino - 5 - (3 - methyl - phenylsulphonyl) - butyranilide, 2 - amino - 5 - (3 - methyl - phenylsulphonyl) - acetanilide, 2 - amino - 5 - (2 - methyl - phenylsulphonyl) - propionanilide, 2 - amino - 5 - (2 - methyl - phenylsulphonyl) - butyranilide, 2 - amino - 5 - (2 - methyl - phenylsulphonyl) - acetanilide, 2 - amino - 5 - (4 - chloro - phenylsulphonyl) - propionanilide, 2 - amino - 5 - (4 - chloro - phenylsulphonyl) - butyranilide, 2 - amino - 5 - (4 - chloro - phenylsulphonyl) - acetanilide, 2 - amino - 5 - (3 - chloro - phenylsulphonyl) - propionanilide, 2 - amino - 5 - (3 - chloro - phenylsulphonyl) - butyranilide, 2 - amino - 5 - (3 - chloro - phenylsulphonyl) - acetanilide, 2 - amino - 5 - (2 - chloro - phenylsulphonyl) - propionanilide, 2 - amino - 5 - (2 - chloro - phenylsulphonyl) - butyranilide, 2 - amino - 5 - (2 - chloro - phenylsulphonyl) - acetanilide, 2 - amino - 5 - (4 - methoxy - phenylsulphonyl) - propionanilide, 2 - amino - 5 - (4 - methoxy - phenylsulphonyl) - butyranilide, 2 - amino - 5 - (4 - methoxy - phenylsulphonyl) - acetanilide, 2 - amino - 5 - (3 - methoxy - phenylsulphonyl) - propionanilide, 2 - amino - 5 - (3 - methoxy - phenylsulphonyl) - butyranilide, 2 - amino - 5 - (3 - methoxy - phenylsulphonyl) - acetanilide, 2 - amino - 5 - (4 - methylthio - phenylsulphonyl) - propionanilide, 2 - amino - 5 - (4 - methylthio - phenylsulphonyl) - butyranilide, 2 - amino - 5 - (4 - methylthio - phenylsulphonyl) - acetanilide, 2 - amino - 5 - (3 - methylthio - phenylsulphonyl) - propionanilide, 2 - amino - 5 - (3 - methylthio - phenylsulphonyl) - butyranilide, 2 - amino - 5 - (3 - methylthio - phenylsulphonyl) - acetanilide, 2 - amino - 5 - (4 - cyano - phenylsulphonyl) - propionanilide, 2 - amino - 5 - (4 - cyano - phenylsulphonyl) - butyranilide, 2 - amino - 5 - (4 - cyano - phenylsulphonyl) - acetanilide, 2 - amino - 5 - (3 - cyano - phenylsulphonyl) - propionanilide, 2 - amino - 5 - (3 - cyano - phenylsulphonyl) - butyranilide, 2 - amino - 5 - (3 - cyano - phenylsulphonyl) - acetanilide, 2 - amino - 5 - (4 - acetyl - phenylsulphonyl) - propionanilide, 2 - amino - 5 - (4 - acetyl - phenylsulphonyl) - butyranilide, 2 - amino - 5 - (4 - acetyl - phenylsulphonyl) - acetanilide, 2 - amino - 5 - (4 - propionyl - phenylsulphonyl) - propionanilide, 2 - amino - 5 - (4 - propionyl - phenylsulphonyl) - butyranilide, 2 - amino - 5 - (4 - propionyl - phenylsulphonyl) - acetanilide, 2 - amino - 5 - (4 - acetylamino - phenylsulphonyl) - propionanilide, 2 - amino - 5 - (4 - acetylamino - phenylsulphonyl) - butyranilide, 2 - amino - 5 - (4 - acetylamino - phenylsulphonyl) - acetanilide, 2 - amino - 5 - (4 - methoxycarbonylamino - phenylsulphonyl) - propionanilide, 2 - amino - 5 - (4 - methoxycarbonylamino - phenylsulphonyl) - butyranilide, 2 - amino - 5 - (4 - methoxycarbonylamino - phenylsulphonyl) - acetanilide, 2 - amino - 5 - (4 - methoxycarbonyl - phenylsulphonyl) - propionanilide, 2 - amino - 5 - (4 - methoxycarbonyl - phenylsulphonyl) - butyranilide, 2 - amino - 5 - (4 - methoxycarbonyl - phenylsulphonyl) - acetanilide, 2 - amino - 5 - (3,4 - dimethyl - phenylsulphonyl) - propionanilide, 2 - amino - 5 - (3,4 - dimethyl - phenylsulphonyl) - butyranilide, 2 - amino - 5 - (3,4 - dimethyl - phenylsulphonyl) - acetanilide, 2 - amino - 5 - (2 - methyl - 4 - chloro - phenylsulphonyl) - propionanilide, 2 - amino - 5 - (2 - methyl - 4 - chloro - phenylsulphonyl) - butyranilide, 2 - amino - 5 - (2 - methyl - 4 - chloro - phenylsulphonyl) - acetanilide, 2 - amino - 5 - (4 - ethyl - phenylsulphonyl) - propionanilide, 2 - amino - 5 - (4 - ethyl - phenylsulphonyl) - butyranilide, 2 -	
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5 lide, 2 - amino - 4 - (4 - methoxycarbonyl - phenylsulphonyl) - acetanilide, 2 - amino - 4 - (3,4 - dimethyl - phenylsulphonyl) - propionanilide, 2 - amino - 4 - (3,4 - dimethyl - phenylsulphonyl) - butyranilide, 2 - amino - 4 - (3,4 - dimethyl - phenylsulphonyl) - acetanilide, 2 - amino - 4 - (2 - methyl - 4 - chloro - phenylsulphonyl) - propionanilide, 2 - amino - 4 - (2 - methyl - 4 - chloro - phenylsulphonyl) - butyranilide, 2 - amino - 4 - (2 - methyl - 4 - chloro - phenylsulphonyl) - acetanilide, 2 - amino - 4 - (4 - ethyl - phenylsulphonyl) - propionanilide, 2 - amino - 4 - (4 - ethyl - phenylsulphonyl) - butyranilide, 2 - amino - 4 - (4 - ethyl - phenylsulphonyl) - acetanilide, 2 - amino - 4 - (3,4 - dichloro - phenylsulphonyl) - propionanilide, 2 - amino - 4 - (3,4 - dichloro - phenylsulphonyl) - butyranilide, 2 - amino - 4 - (3,4 - dichloro - phenylsulphonyl) - acetanilide, 2 - amino - 4 - (4 - bromo - phenylsulphonyl) - propionanilide, 2 - amino - 4 - (4 - bromo - phenylsulphonyl) - butyranilide, 2 - amino - 4 - (4 - bromo - phenylsulphonyl) - acetanilide, 2 - amino - 4 - (3,5 - dimethyl - phenylsulphonyl) - propionanilide, 2 - amino - 4 - (3,5 - dimethyl - phenylsulphonyl) - butyranilide, 2 - amino - 4 - (3,5 - dimethyl - phenylsulphonyl) - acetanilide, 2 - amino - 4 - (4 - butyl - phenylsulphonyl) - propionanilide, 2 - amino - 4 - (4 - butyl - phenylsulphonyl) - butyranilide, 2 - amino - 4 - (4 - butyl - phenylsulphonyl) - acetanilide, 2 - amino - 4 - (3 - butyl - phenylsulphonyl) - propionanilide, 2 - amino - 4 - (3 - butyl - phenylsulphonyl) - butyranilide and 2 - amino - 4 - (3 - butyl - phenylsulphonyl) - acetanilide.

10 The diluents which are used in carrying out the process according to the invention will usually be a polar organic solvent. These preferentially include alcohols, such as methanol, ethanol, iso-propanol and their mixtures with water, ketones such as acetone (also as a mixture with water), acetic acid (also as a mixture with water) and also ethers such as dioxane or tetrahydrofurane.

15 The acids optionally added as a reaction-promoting catalyst when carrying out the process of the invention can in principle be chosen as desired from the range of known organic or inorganic acids. However, it is advantageous to use the easily accessible, industrially important representatives of these categories. Hydrochloric acid, sulphuric acid, nitric acid, formic acid, acetic acid and p-toluenesulphonic acid may be mentioned as examples.

20 The reaction temperatures can be varied over a substantial range. In general, the reaction is carried out at between 0°C and 120°C, preferably at between 30 and 100°C. The reaction is in general carried out under normal pressure.

25 In carrying out the process according to the invention, 1 mol of isothioureather is employed per mol of the substituted 2-amino-anilide. It is possible to use up to 20% more or less than this ratio without significant reduction in yield. The reaction is preferably carried out in the boiling solvent, alkylmercaptan being formed as a by-product. The end products are obtained in a crystalline form on cooling the reaction mixture and can be separated off by suction filtration and be purified, if appropriate, by redissolving and reprecipitating, or by recrystallisation.

30 The following may be mentioned individually as new active compounds: N - (2 - acetamido - 4 - phenoxy - phenyl) - N' - methoxycarbonyl - N'' - propionyl-guanidine, N - (2 - acetamido - 4 - phenoxy - phenyl) - N' - ethoxycarbonyl - N'' - propionyl - guanidine, N - (2 - acetamido - 4 - phenoxy - phenyl) - N' - iso - propoxycarbonyl - N'' - propionyl - guanidine, N - (2 - acetamido - 4 - phenoxy - phenyl) - N' - sec. - butoxycarbonyl - N'' - propionyl - guanidine, N - (2 - propionamido - 4 - phenoxy - phenyl) - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - (2 - butyramido - 4 - phenoxy - phenyl) - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - (2 - valeramido - 4 - phenoxy - phenyl) - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - (2 - cyclopentanecarboxamido - 4 - phenoxy - phenyl) - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - (2 - cyclohexanecarboxamido - 4 - phenoxy - phenyl) - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - (2 - benzamido - 4 - phenoxy - phenyl) - N' - methoxycarbonyl - N'' - propionyl-guanidine, N - (2 - acetamido - 4 - phenoxy - phenyl) - N' - methoxycarbonyl - N'' - acetyl - guanidine, N - (2 - acetamido - 4 - phenoxy - phenyl) - N' - methoxycarbonyl - N'' - butyryl - guanidine, N - (2 - acetamido - 4 - phenoxy - phenyl) - N' - methoxycarbonyl - N'' - cyclohexanecarbonyl - guanidine, N - (2 - acetamido - 4 - phenoxy - phenyl) - N' - methoxycarbonyl - N'' - benzoyl - guanidine, N - (2 - acetamido - 4 - phenoxy - phenyl) - N' - methoxycarbonyl - N'' - phenylacetyl - guanidine, N - (2 - acetamido - 4 - phenoxy - phenyl) - N' - methoxycarbonyl - N'' - phenoxycetyl - guanidine, N - [2 - (2' - methylureido) - 4 - phenoxy - phenyl] - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - [2 - (2' - ethylureido) - 4 - phenoxy - phenyl] - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - [2 - (2' - butylureido) - 4 - phenoxy - phenyl] - N' - methoxycarbonyl - N'' - propionyl - guani-

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N - (2 - benzamido - 5 - phenoxy - phenyl) - N' - methoxycarbonyl - N'' - propionyl -
 guanidine, N - (2 - acetamido - 5 - phenoxy - phenyl) - N' - methoxycarbonyl - N'' -
 acetyl - guanidine, N - (2 - acetamido - 5 - phenoxy - phenyl) - N' - methoxycar-
 5 bonyl - N'' - butyryl - guanidine, N - (2 - acetamido - 5 - phenoxy - phenyl) - N' -
 methoxycarbonyl - N'' - cyclohexanecarbonyl - guanidine, N - (2 - acetamido - 5 -
 phenoxy - phenyl) - N' - methoxycarbonyl - N'' - benzoyl - guanidine, N - (2 - acet-
 amido - 5 - phenoxy - phenyl) - N' - methoxycarbonyl - N'' - phenylacetyl - guani-
 10 dine, N - (2 - acetamido - 5 - phenoxy - phenyl) - N' - methoxycarbonyl - N'' - phen-
 oxyacetyl - guanidine, N - [2 - (2' - methylureido) - 5 - phenoxy - phenyl] - N' -
 methoxycarbonyl - N'' - propionyl - guanidine, N - [2 - (2' - ethylureido) - 5 -
 phenoxy - phenyl] - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - [2 - (2' - butyl-
 ureido) - 5 - phenoxy - phenyl] - N' - methoxycarbonyl - N'' - propionyl - guanidine,
 15 N - [2 - (2' - ω - cyanopentylureido) - 5 - phenoxy - phenyl] - N' - methoxycarbonyl -
 N'' - propionyl - guanidine, N - [2 - (2' - β - methoxymethylureido) - 5 - phenoxy -
 phenyl] - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - [2 - (2' - benzyl-
 ureido) - 5 - phenoxy - phenyl] - N' - methoxycarbonyl - N'' - propionyl - guanidine,
 N - [2 - (2' - phenylureido) - 5 - phenoxy - phenyl] - N' - methoxycarbonyl - N'' -
 propionyl - guanidine, N - (2 - acetamido - 5 - phenoxy - phenyl) - N', N'' - bis-
 20 methoxycarbonyl - guanidine, N - (2 - acetamido - 5 - phenoxy - phenyl) - N', N'' -
 bis - ethoxycarbonyl - guanidine, N - (2 - acetamido - 5 - phenoxy - phenyl) - N', N'' -
 bis - iso - propoxy - carbonyl - guanidine, N - (2 - acetamido - 5 - phenoxy - phenyl) -
 N', N'' - bis - sec - butoxycarbonyl - guanidine, N - (2 - propionamido - 5 - phenoxy -
 phenyl) - N', N'' - bis - methoxycarbonyl - guanidine, N - (2 - butyramido - 5 -
 25 phenoxy - phenyl) - N', N'' - bis - methoxycarbonyl - guanidine, N - (2 - iso -
 butyramido - 5 - phenoxy - phenyl) - N', N'' - bis - methoxycarbonyl - guanidine,
 N - (2 - valeramido - 5 - phenoxy - phenyl) - N', N'' - bis - methoxycarbonyl - guani-
 dine, N - (2 - iso - valeramido - 5 - phenoxy - phenyl) - N', N'' - bis - methoxycar-
 30 bonyl - guanidine, N - (2 - caproamido - 5 - phenoxy - phenyl) - N', N'' - bis -
 methoxycarbonyl - guanidine, N - (2 - iso - caproamido - 5 - phenoxy - phenyl) - N',
 N'' - bis - methoxycarbonyl - guanidine, N - (2 - cyclopentanecarboxamido - 5 -
 phenoxy - phenyl) - N', N'' - bis - methoxycarbonyl - guanidine, N - (2 - cyclo-
 hexanecarboxamido - 5 - phenoxy - phenyl) - N', N'' - bis - methoxycarbonyl -
 35 guanidine, N - (2 - phenylacetamido - 5 - phenoxy - phenyl) - N', N'' - bis - methoxy-
 carbonyl - guanidine, N - (2 - phenoxy - acetamido - 5 - phenoxy - phenyl) - N', N'' -
 bis - methoxycarbonyl - guanidine, N - (2 - benzamido - 5 - phenoxy - phenyl) -
 N', N'' - bis - methoxycarbonyl - guanidine, N - [2 - (2' - methylureido) - 5 - phenoxy -
 phenyl] - N', N'' - bis - methoxycarbonyl - guanidine, N - [2 - (2' - ethylureido) - 5 -
 40 phenoxy - phenyl] - N', N'' - bis - methoxycarbonyl - guanidine, N - [2 - (2' - butyl-
 ureido) - 5 - phenoxy - phenyl] - N', N'' - bis - methoxycarbonyl - guanidine, N - [2 -
 (2' - ω - cyanopentylureido) - 5 - phenoxy - phenyl] - N', N'' - bis - methoxycarbonyl -
 guanidine, N - [2 - (2' - β - methoxyethylureido) - 5 - phenoxy - phenyl] - N', N'' - bis -
 45 methoxycarbonyl - guanidine, N - [2 - (2' - benzylureido) - 5 - phenoxy - phenyl] -
 N', N'' - bis - methoxycarbonyl - guanidine, N - [2 - (2' - phenylureido) - 5 - phenoxy -
 phenyl] - N', N'' - bis - methoxycarbonyl - guanidine, N - [2 - propionamido - 5 - (4 -
 methyl - phenoxy) - phenyl] - N', N'' - bis - methoxycarbonyl - guanidine, N - [2 -
 propionamido - 5 - (3 - methyl - phenoxy) - phenyl] - N', N'' - bis - methoxycarbonyl -
 50 guanidine, N - [2 - propionamido - 5 - (4 - chlorophenoxy) - phenyl] - N', N'' - bis -
 methoxycarbonyl - guanidine, N - [2 - propionamido - 5 - (3 - chloro - phenoxy) -
 phenyl] - N', N'' - bis - methoxycarbonyl - guanidine, N - [2 - propionamido - 5 - (2 -
 chloro - phenoxy) - phenyl] - N', N'' - bis - methoxycarbonyl - guanidine, N - [2 -
 propionamido - 5 - (4 - methoxy - phenoxy) - phenyl] - N', N'' - bis - methoxycar-
 55 bonyl - guanidine, N - [2 - propionamido - 5 - (4 - methylthio - phenoxy) - phenyl] -
 N', N'' - bis - methoxycarbonyl - guanidine, N - [2 - propionamido - 5 - (3 - methyl-
 thio - phenoxy) - phenyl] - N', N'' - bis - methoxycarbonyl - guanidine, N - [2 -
 propionamido - 5 - (4 - cyano - phenoxy) - phenyl] - N', N'' - bis - methoxycarbonyl -
 guanidine, N - [2 - propionamido - 5 - (4 - acetyl - phenoxy) - phenyl] - N', N'' - bis -
 60 methoxycarbonyl - guanidine, N - [2 - propionamido - 5 - (3,4 -
 dimethyl - phenoxy) - phenyl] - N', N'' - bis - methoxycarbonyl - guanidine, N - [2 -
 propionamido - 5 - (3,4 - dichloro - phenoxy) - phenyl] - N', N'' - bis - methoxycar-
 65 bonyl - guanidine, N - (2 - acetamido - 4 - phenylthio - phenyl) - N' - methoxy-

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5	carbonyl - N'' - propionyl - guanidine, N - (2 - acetamido - 4 - phenylthio - phenyl)- N' - ethoxycarbonyl - N'' - propionyl - guanidine, N - (2 - acetamido - 4 - phenyl- thio - phenyl) - N' - iso - propoxycarbonyl - N'' - propionyl - guanidine, N - (2- acetamido - 4 - phenylthio - phenyl) - N' - sec. - butoxycarbonyl - N'' - propionyl- guanidine, N - (2 - propionamido - 4 - phenylthio - phenyl) - N' - methoxycarbonyl- N'' - propionyl - guanidine, N - (2 - butyramido - 4 - phenylthio - phenyl) - N'- methoxycarbonyl - N'' - propionyl - guanidine, N - (2 - valeramido - 4 - phenylthio- phenyl) - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - (2 - cyclopentane- carboxamido - 4 - phenylthio - phenyl) - N' - methoxycarbonyl - N'' - propionyl- guanidine, N - (2 - cyclohexanecarboxamido - 4 - phenylthio - phenyl) - N' - meth- oxycarbonyl - N'' - propionyl - guanidine, N - (2 - benzamido - 4 - phenylthio- phenyl) - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - (2 - acetamido- 4 - phenylthio - phenyl) - N' - methoxycarbonyl - N'' - acetyl - guanidine, N - (2- acetamido - 4 - phenylthio - phenyl) - N' - methoxycarbonyl - N'' - butyryl - guani- dine, N - (2 - acetamido - 4 - phenylthio - phenyl) - N' - methoxycarbonyl - N''- cyclohexanecarbonyl - guanidine, N - (2 - acetamido - 4 - phenylthio - phenyl)- N' - methoxycarbonyl - N'' - benzoyl - guanidine, N - (2 - acetamido - 4 - phenyl- thio - phenyl) - N' - methoxycarbonyl - N'' - phenylacetyl - guanidine, N - (2- acetamido - 4 - phenylthio - phenyl) - N' - methoxycarbonyl - N'' - phenoxyacetyl- guanidine, N - [2 - (2' - methylureido) - 4 - phenylthio - phenyl] - N' - methoxycar- bonyl - N'' - propionyl - guanidine, N - [2 - (2' - ethylureido) - 4 - phenylthio- phenyl] - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - [2 - (2' - butyl- ureido) - 4 - phenylthio - phenyl] - N' - methoxycarbonyl - N'' - proionyl - guanidine, N - [2 - (2' - ω - cyanopentylureido) - 4 - phenylthio - phenyl] - N' - methoxycar- bonyl - N'' - propionyl - guanidine, N - [2 - (2' - β - methoxymethylureido) - 4 - phenylthio - phenyl] - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - [2- (2' - benzylureido) - 4 - phenylthio - phenyl] - N' - methoxycarbonyl - N''- propionyl - guanidine, N - [2 - (2' - phenylureido) - 4 - phenylthio - phenyl] - N'- methoxycarbonyl - N'' - propionyl - guanidine, N - (2 - acetamido - 4 - phenylthio- phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - (2 - acetamido - 4 - phenyl- thio - phenyl) - N',N'' - bis - ethoxycarbonyl - guanidine, N - (2 - acetamido - 4- phenylthio - phenyl) - N',N'' - bis - iso - propoxycarbonyl - guanidine, N - (2 - acet- amido - 4 - phenylthio - phenyl) - N',N'' - bis - sec. - butoxycarbonyl - guanidine, N - (2 - propionamido - 4 - phenylthio - phenyl) - N',N'' - bis - methoxycarbonyl- guanidine, N - (2 - butyramido - 4 - phenylthio - phenyl) - N',N'' bis - methoxy- carbonyl - guanidine, N - (2 - iso - butyramido - 4 - phenylthiophenyl) - N',N'' - bis- methoxycarbonyl - guanidine, N - (2 - valeramido - 4 - phenylthio - phenyl) - N',N''- bis - methoxycarbonyl - guanidine, N - (2 - iso - valeramido - 4 - phenylthio- phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - (2 - caproamido - 4- phenylthio - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - (2 - iso- caproamido - 4 - phenylthio - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - (2 - cyclopentanecarboxamido - 4 - phenylthio - phenyl) - N',N'' - bis - methoxy- carbonyl - guanidine, N - (2 - cyclohexanecarboxamido - 4 - phenylthio - phenyl)- N',N'' - bis - methoxycarbonyl - guanidine, N - (2 - phenylacetamido - 4 - phenyl- thio - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - (2 - phenoxyacet- amido - 4 - phenylthio - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - (2- benzamido - 4 - phenylthio - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - (2' - methylureido) - 4 - phenylthio - phenyl] - N',N'' - bis - methoxycar- bonyl - guanidine, N - [2 - (2' - ethylureido) - 4 - phenylthio - phenyl] - N',N'' - bis- methoxycarbonyl - guanidine, N - [2 - (2' - butylureido) - 4 - phenylthio - phenyl]- N',N'' - bis - methoxy - carbonyl - guanidine, N - [2 - (2' - ω - cyanopentylureido)- 4 - phenylthio - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - (2'- β - methoxyethylureido) - 4 - phenylthio - phenyl] - N',N'' - bis - methoxycarbonyl- guanidine, N - [2 - (2' - benzylureido) - 4 - phenylthio - phenyl] - N',N'' - bis- methoxycarbonyl - guanidine, N - [2 - (2' - phenylureido) - 4 - phenylthio - phenyl]- N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propionamido - 4 - (4 - methyl- phenylthio) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propion- amido - 4 - (3 - methyl - phenylthio) - phenyl] - N',N'' - bis - methoxycarbonyl- guanidine, N - [2 - propionamido - 4 - (4 - chloro - phenylthio) - phenyl] - N',N''- bis - methoxycarbonyl - guanidine, N - [2 - propionamido - 4 - (3 - chloro - phenyl- thio) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propionamido- 4 - (2 - chloro - phenylthio) - phenyl] - N',N'' - bis - methoxycarbonyl - guani- dine, N - [2 - propionamido - 4 - (4 - methoxy - phenylthio) - phenyl] - N',N'' - bis- methoxycarbonyl - guanidine, N - [2 - propionamido - 4 - (3 - methoxy - phenyl- thio) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propionamido-	5 5 10 10 15 15 20 20 25 25 30 30 35 35 40 40 45 45 50 50 55 55 60 60 65 65
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4 - (4 - methylthio - phenylthio) - phenyl] - N',N'' - bis - methoxycarbonyl - guanine,
 dine, N - [2 - propionamido - 4 - (3 - methylthio - phenylthio) - phenyl] - N',N'' -
 bis - methoxycarbonyl - guanine, N - [2 - propionamido - 4 - (4 - cyano - phenyl-
 thio) - phenyl] - N',N'' - bis - methoxycarbonyl - guanine, N - [2 - propionamido -
 4 - (4 - acetyl - phenylthio) - phenyl] - N',N'' - bis - methoxycarbonyl - guanine,
 N - [2 - propionamido - 4 - (3 - cyano - phenylthio) - phenyl] - N',N'' - bis - methoxy-
 carbonyl - guanine, N - [2 - propionamido - 4 - (4 - propionyl - phenylthio) -
 phenyl] - N',N'' - bis - methoxycarbonyl - guanine, N - [2 - propionamido - 4 - (4 -
 acetylamino - phenylthio) - phenyl] - N',N'' - bis - methoxycarbonyl - guanine,
 N - [2 - propionamido - 4 - (4 - methoxycarbonyl - phenylthio) - phenyl] - N',N'' -
 bis - methoxycarbonyl - guanine, N - [2 - propionamido - 4 - (3,4 - dimethyl-
 phenylthio) - phenyl] - N',N'' - bis - methoxycarbonyl - guanine, N - [2 - propion-
 amido - 4 - (3,4 - dichloro - phenylthio) - phenyl] - N',N'' - bis - methoxycarbonyl -
 guanine, N - (2 - acetamido - 5 - phenylthio - phenyl) - N' - methoxycarbonyl -
 N'' - propionyl - guanine, N - (2 - acetamido - 5 - phenylthio - phenyl) - N' -
 ethoxycarbonyl - N'' - propionyl - guanine, N - (2 - acetamido - 4 - phenylthio-
 phenyl) - N' - isopropoxycarbonyl - N'' - propionyl - guanine, N - (2 - acetamido -
 5 - phenylthio - phenyl) - N' - sec. - butoxycarbonyl - N'' - propionyl - guanine,
 N - (2 - propionamido - 5 - phenylthio - phenyl) - N' - methoxycarbonyl - N'' -
 propionyl - guanine, N - (2 - butyramido - 5 - phenylthio - phenyl) - N' - methoxy-
 carbonyl - N'' - propionyl - guanine, N - (2 - valeramido - 5 - phenylthio - phenyl) -
 N' - methoxycarbonyl - N'' - propionyl - guanine, N - (2 - cyclopentanecarbox-
 amido - 5 - phenylthio - phenyl) - N' - methoxycarbonyl - N'' - propionyl - guani-
 dine, N - (2 - cyclohexanecarboxamido - 5 - phenylthio - phenyl) - N' - methoxy-
 carbonyl - N'' - propionyl - guanine, N - (2 - benzamido - 5 - phenylthio - phenyl) -
 N' - methoxycarbonyl - N'' - propionyl - guanine, N - (2 - acetamido - 5 - phenyl-
 thio - phenyl) - N' - methoxycarbonyl - N'' - acetyl - guanine, N - (2 - acetamido -
 5 - phenylthio - phenyl) - N' - methoxycarbonyl - N'' - butyryl - guanine, N - (2 -
 acetamido - 5 - phenylthio - phenyl) - N' - methoxycarbonyl - N'' - cyclohexane-
 carbonyl - guanine, N - (2 - acetamido - 5 - phenylthio - phenyl) - N' - methoxy-
 carbonyl - N'' - benzoyl - guanine, N - (2 - acetamido - 5 - phenylthio - phenyl) -
 N' - methoxycarbonyl - N'' - phenylacetyl - guanine, N - (2 - acetamido - 5 -
 phenylthio - phenyl) - N' - methoxycarbonyl - N'' - phenoxyacetyl - guanine, N -
 [2 - (2' - methylureido) - 5 - phenylthio - phenyl] - N' - methoxycarbonyl - N'' -
 propionyl - guanine, N - [2 - (2' - ethylureido) - 5 - phenylthio - phenyl] - N' -
 methoxycarbonyl - N'' - propionyl - guanine, N - [2 - (2' - butylureido) - 5 - phenyl-
 thio - phenyl] - N' - methoxycarbonyl - N'' - propionyl - guanine, N - [2 - (2' - ω -
 cyanopentylureido) - 5 - phenylthio - phenyl] - N' - methoxycarbonyl - N'' - propi-
 onyl - guanine, N - [2 - (2' - β - methoxymethylureido) - 5 - phenylthio - phenyl] -
 N' - methoxycarbonyl - N'' - propionyl - guanine, N - [2 - (2' - benzylureido) - 5 -
 phenylthio - phenyl] - N' - methoxycarbonyl - N'' - propionyl - guanine, N - [2 -
 (2' - phenylureido) - 5 - phenylthio - phenyl] - N' - methoxycarbonyl - N'' - propi-
 onyl - guanine, N - (2 - acetamido - 5 - phenylthio - phenyl) - N',N'' - bis -
 methoxycarbonyl - guanine, N - (2 - acetamido - 5 - phenylthio - phenyl) - N',N'' -
 bis - ethoxycarbonyl - guanine, N - (2 - acetamido - 5 - phenylthio - phenyl) -
 N',N'' - bis - iso - propoxycarbonyl - guanine, N - (2 - acetamido - 5 - phenyl-
 thio - phenyl) - N',N'' - bis - sec. - butoxycarbonyl - guanine, N - (2 - propion-
 amido - 5 - phenylthio - phenyl) - N',N'' - bis - methoxycarbonyl - guanine, N -
 (2 - butyramido - 5 - phenylthio - phenyl) - N',N'' - bis - methoxycarbonyl - guani-
 dine, N - (2 - iso - butyramido - 5 - phenylthio - phenyl) - N',N'' - bis - methoxy-
 carbonyl - guanine, N - (2 - valeramido - 5 - phenylthio - phenyl) - N',N'' - bis -
 methoxycarbonyl - guanine, N - (2 - iso - valeramido - 5 - phenylthio - phenyl) -
 N',N'' - bis - methoxycarbonyl - guanine, N - (2 - caproamido - 5 - phenylthio-
 phenyl) - N',N'' - bis - methoxycarbonyl - guanine, N - (2 - iso - caproamido - 5 -
 phenylthio - phenyl) - N',N'' - bis - methoxycarbonyl - guanine, N - (2 - cyclo-
 pentanecarboxamido - 5 - phenylthio - phenyl) - N',N'' - bis - methoxycarbonyl -
 guanine, N - (2 - cyclohexanecarboxamido - 5 - phenylthio - phenyl) - N',N'' - bis -
 methoxycarbonyl - guanine, N - (2 - phenylacetamido - 5 - phenylthio - phenyl) -
 N',N'' - bis - methoxycarbonyl - guanine, N - (2 - phenoxyacetamido - 5 - phenyl-
 thio - phenyl) - N',N'' - bis - methoxycarbonyl - guanine, N - (2 - benzamido - 5 -
 phenylthio - phenyl) - N',N'' - bis - methoxycarbonyl - guanine, N - [2 - (2' -
 methylureido) - 5 - phenylthio - phenyl] - N',N'' - bis - methoxycarbonyl - guani-
 dine, N - [2 - (2' - ethylureido) - 5 - phenylthio - phenyl] - N',N'' - bis - methoxy-
 carbonyl - guanine, N - [2 - (2' - butylureido) - 5 - phenylthio - phenyl] - N',N'' -
 bis - methoxycarbonyl - guanine, N - [2 - (2' - ω - cyanopentylureido) - 5 - phenyl-

[illegible]

phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - (2 - valeramido - 4 - phenylsulphinyl - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - (2 - iso-valeramido - 4 - phenylsulphinyl - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - (2 - caproamido - 4 - phenylsulphinyl - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - (2 - iso - caproamido - 4 - phenylsulphinyl - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - (2 - cyclopentanecarboxamido - 4 - phenylsulphinyll - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - (2 - cyclohexanecarboxamido - 4 - phenylsulphinyll - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - (2 - phenylacetamido - 4 - phenylsulphinyll - phenyl) - N',N'' - bis-methoxycarbonyl - guanidine, N - (2 - phenoxyacetamido - 4 - phenylsulphinyll-phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - (2 - benzamido - 4 - phenylsulphinyll - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - (2' - methylureido) - 4 - phenylsulphinyll - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - (2' - ethylureido) - 4 - phenylsulphinyll - phenyl] - N',N'' - bis - methoxy-carbonyl - guanidine, N - [2 - (2' - butylureido) - 4 - phenylsulphinyll - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - (2' - ω - cyanopentylureido) - 4 - phenylsulphinyll - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - (2' - β - methoxyethyl - ureido) - 4 - phenylsulphinyll - phenyl] - N',N'' - bis-methoxycarbonyl - guanidine, N - [2 - (2' - benzylureido) - 4 - phenylsulphinyll-phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - (2' - phenylureido) - 4 - phenylsulphinyll - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2-propionamido - 4 - (4 - methyl - phenylsulphinyll - phenyl) - N',N'' - bis - methoxy-carbonyl - guanidine, N - [2 - propionamido - 4 - (3 - methylphenylsulphinyll)-phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propionamido - 4 - (4-chloro - phenylsulphinyll) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propionamido - 4 - (3 - chlorophenylsulphinyll) - phenyl] - N',N'' - bis-methoxycarbonyl - guanidine, N - [2 - propionamido - 4 - (2 - chloro - phenylsul-phinyll) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propion-amido - 4 - (4 - methoxyphenylsulphinyll) - phenyl] - N',N'' - bis - methoxycar-bonyl - guanidine, N - [2 - propionamido - 4 - (3 - methoxy - phenylsulphinyll)-phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propionamido - 4 - (4 - methylthio - phenylsulphinyll) - phenyl] - N',N'' - bis - methoxycarbonyl - guani-dine, N - [2 - propionamido - 4 - (3 - methylthio - phenylsulphinyll) - phenyl] - N',N''-bis - methoxycarbonyl - guanidine, N - [2 - propionamido - 4 - (4 - cyano-phenylsulphinyll) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - (2-propionamido - 4 - (4 - acetyl - phenylsulphinyll) - phenyl) - N',N'' - bis - methoxy-carbonyl - guanidine, N - [2 - propionamido - 4 - (3 - cyano - phenylsulphinyll)-phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propionamido - 4 - (4-propionyl - phenylsulphinyll) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propionamido - 4 - (4 - acetylamino - phenylsulphinyll) - phenyl] - N',N'' - bis-methoxycarbonyl - guanidine, N - [2 - propionamido - 4 - (4 - methoxycarbonyl-phenylsulphinyll) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - (2-propionamido - 4 - (3,4 - dimethyl - phenylsulphinyll) - phenyl] - N',N'' - bis - meth-oxycarbonyl - guanidine, N - [2 - propionamido - 4 - (3,4 - dichloro - phenylsul-phinyll) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - (2 - acetamido-5 - phenylsulphinyll - phenyl) - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - (2 - acetamido - 5 - phenylsulphinyll - phenyl) - N' - ethoxycarbonyl - N'' - propi-onyl - guanidine, N - (2 - acetamido - 5 - phenylsulphinyll - phenyl) - N' - iso - pro-poxycarbonyl - N'' - propionyl - guanidine, N - (2 - acetamido - 5 - phenylsulphinyll-phenyl) - N' - sec. - butoxycarbonyl - N'' - propionyl - guanidine, N - (2 - propion-amido - 5 - phenylsulphinyll - phenyl) - N' - methoxycarbonyl - N'' - propionyl-guanidine, N - (2 - butyramido - 5 - phenylsulphinyll - phenyl) - N' - methoxycar-bonyl - N'' - propionyl - guanidine, N - (2 - valeramido - 5 - phenylsulphinyll - phen-yl) - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - (2 - cyclopentane-carboxamido - 5 - phenylsulphinyll - phenyl) - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - (2 - cyclohexanecarboxamido - 5 - phenylsulphinyll-phenyl) - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - (2 - benzamido - 5-phenylsulphinyll - phenyl) - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - (2 - acetamido - 5 - phenylsulphinyll - phenyl) - N' - methoxycarbonyl - N'' - acetyl - guanidine, N - (2 - acetamido - 5 - phenylsulphinyll - phenyl) - N' - methoxy-carbonyl - N'' - butyryl - guanidine, N - (2 - acetamido - 5 - phenylsulphinyll-phenyl) - N' - methoxycarbonyl - N'' - cyclohexanecarbonyl - guanidine, N - (2-acetamido - 5 - phenylsulphinyll - phenyl) - N' - methoxycarbonyl - N'' - benzoyl-guanidine, N - (2 - acetamido - 5 - phenylsulphinyll - phenyl) - N' - methoxycar-bonyl - N'' - phenylacetyl - guanidine, N - (2 - acetamido - 5 - phenylsulphinyll-

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phenyl - phenyl) - N' - ethoxycarbonyl - N'' - propionyl - guanidine, N - (2 - acetamido - 4 - phenylsulphonyl - phenyl) - N' - iso - propoxycarbonyl - N'' - propionyl-guanidine, N - (2 - acetamido - 4 - phenylsulphonyl - phenyl) - N' - sec. - butoxycarbonyl - N'' - propionyl - guanidine, N - (2 - propionamido - 4 - phenylsulphonyl-phenyl) - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - (2 - butyramido-4 - phenylsulphonyl - phenyl) - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - (2 - valeramide - 4 - phenylsulphonyl - phenyl) - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - (2 - cyclopentanecarboxamido - 4 - phenylsulphonyl-phenyl) - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - (2 - cyclohexanecarboxamido - 4 - phenylsulphonyl - phenyl) - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - (2 - benzamido - 4 - phenylsulphonyl - phenyl) - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - (2 - acetamido - 4 - phenylsulphonyl - phenyl) - N' - methoxycarbonyl - N'' - acetyl - guanidine, N - (2 - acetamido - 4 - phenylsulphonyl - phenyl) - N' - methoxycarbonyl - N'' - butyryl-guanidine, N - (2 - acetamido - 4 - phenylsulphonyl - phenyl) - N' - methoxy-carbonyl - N'' - cyclohexanecarbonyl - guanidine, N - (2 - acetamido - 4 - phenyl-sulphonyl - phenyl) - N' - methoxycarbonyl - N'' - benzoyl - guanidine, N - (2-acetamido - 4 - phenylsulphonyl - phenyl) - N' - methoxycarbonyl - N'' - phenyl-acetyl - guanidine, N - (2 - acetamido - 4 - phenylsulphonyl - phenyl) - N' - methoxy-carbonyl - N'' - phenoxyacetyl - guanidine, N - [2 - (2' - methylureido) - 4 - phenyl-sulphonyl - phenyl] - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - [2-(2' - ethylureido) - 4 - phenylsulphonyl - phenyl] - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - [2 - (2' - butylureido) - 4 - phenylsulphonyl - phenyl] - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - [2 - (2' - ω - cyanopentyl-ureido) - 4 - phenylsulphonyl - phenyl] - N' - methoxycarbonyl - N'' - propionyl-guanidine, N - [2 - (2' - β - methoxymethylureido) - 4 - phenylsulphonyl - phenyl] - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - [2 - (2' - benzylureido) - 4 - phenylsulphonyl - phenyl] - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - [2 - (2' - phenylureido) - 4 - phenylsulphonyl - phenyl] - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - (2 - acetamido - 4 - phenylsulphonyl - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - (2 - acetamido - 4 - phenylsulphonyl-phenyl) - N',N'' - bis - ethoxycarbonyl - guanidine, N - (2 - acetamido - 4 - phenyl-sulphonyl - phenyl) - N',N'' - bis - iso - propoxycarbonyl - guanidine, N - (2 - acet-amido - 4 - phenylsulphonyl - phenyl) - N',N'' - bis - sec. - butoxycarbonyl - guani-dine, N - (2 - propionamido - 4 - phenylsulphonyl - phenyl) - N',N'' - bis - methoxy-carbonyl - guanidine, N - (2 - butyramido - 4 - phenylsulphonyl - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - (2 - iso - butyramido - 4 - phenylsulphonyl-phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - (2 - valeramide - 4 - phenylsulphonyl - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - (2 - iso-valeramide - 4 - phenylsulphonyl - phenyl) - N',N'' - bis - methoxycarbonyl - guani-dine, N - (2 - caproamido - 4 - phenylsulphonyl - phenyl) - N',N'' bis - methoxy-carbonyl - guanidine, N - (2 - iso - caproamido - 4 - phenylsulphonyl - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - (2 - cyclopentanecarboxamido - 4 - phenylsulphonyl - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - (2 - cyclohexanecarboxamido - 4 - phenylsulphonyl - phenyl) - N',N'' - bis - methoxy-carbonyl - guanidine, N - (2 - phenylacetamido - 4 - phenylsulphonyl - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - (2 - phenoxy - acetamido - 4 - phenylsulphonyl - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - (2 - benzamido - 4 - phenylsulphonyl - phenyl) - N',N'' - bis - methoxycarbonyl - guani-dine, N - [2 - (2' - methoxyureido) - 4 - phenylsulphonyl - phenyl] - N',N'' - bis-methoxycarbonyl - guanidine, N - [2 - (2' - ethylureido) - 4 - phenylsulphonyl-phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - (2' - butylureido) - 4 - phenylsulphonyl - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - (2' - ω - cyanopentylureido) - 4 - phenylsulphonyl - phenyl] - N',N'' - bis - methoxy-carbonyl - guanidine, N - [2 - 2' - β - methoxyethyl - ureido) - 4 - phenylsulphonyl-phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - (2' - benzylureido)-4 - phenylsulphonyl - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - (2' - phenylureido) - 4 - phenylsulphonyl - phenyl] - N',N'' - bis - methoxy-carbonyl - guanidine, N - [2 - propionamido - 4 - (4 - methyl - phenylsulphonyl)-phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propionamido - 4 - (3 - methyl - phenylsulphonyl) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propionamido - 4 - (4 - chloro - phenylsulphoyl) - phenyl] - N',N'' - bis-methoxycarbonyl - guanidine, N - [2 - propionamido - 4 - (3 - chloro - phenylsul-phonyl) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propion-

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guanidine, N - [2 - propionamido - 4 - (4 - methoxy - phenylsulphonyl) - phenyl] -
N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propionamido - 4 - (3 - methoxy-
phenylsulphonyl) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2-
propionamido - 4 - (4 - methylthio - phenylsulphonyl) - phenyl] - N',N'' - bis-
methoxycarbonyl - guanidine, N - [2 - propionamido - 4 - (3 - methylthio - phenyl-
sulphonyl) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propion-
amido - 4 - (4 - cyano - phenylsulphonyl) - phenyl] - N',N'' - bis - methoxycarbonyl-
guanidine, N - [2 - propionamido - 4 - (4 - acetyl - phenylsulphonyl) - phenyl]-
N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propionamido - 4 - (3 - cyano-
phenylsulphonyl) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2-
propionamido - 4 - (4 - propionyl - phenylsulphonyl) - phenyl] - N',N'' - bis - metho-
xycarbonyl - guanidine, N - [2 - propionamido - 4 - (4 - acetylamino - phenylsulpho-
nyl) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propion-
amido - 4 - (4 - methoxycarbonyl - phenylsulphonyl) - phenyl] - N',N'' - bis-
methoxycarbonyl - guanidine, N - [2 - propionamido - 4 - (3,4 - dimethyl-
phenylsulphonyl) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2-
propionamido - 4 - (3,4 - dichloro - phenylsulphonyl) - phenyl] - N',N'' - bis-
methoxycarbonyl - guanidine, N - (2 - acetamido - 4 - phenylsulphonyl - phenyl)-
N' - methoxycarbonyl - N'' - propionyl - guanidine, N - (2 - acetamido - 4 - phenyl-
sulphonyl - phenyl) - N' - ethoxycarbonyl - N'' - propionyl - guanidine, N - (2-
acetamido - 4 - phenylsulphonyl - phenyl) - N' - iso - propoxycarbonyl - N''-
propionyl - guanidine, N - (2 - acetamido - 5 - phenylsulphonyl - phenyl) - N'-
sec. - butoxycarbonyl - N'' - propionyl - guanidine, N - (2 - propionamido - 4 -
phenylsulphonyl - phenyl) - N' - methoxycarbonyl - N'' - propionyl - guanidine,
N - (2 - butyramido - 5 - phenylsulphonyl - phenyl) - N' - methoxycarbonyl - N''-
propionyl - guanidine, N - (2 - valeramido - 5 - phenylsulphonyl - phenyl) - N'-
methoxycarbonyl - N'' - propionyl - guanidine, N - (2 - cyclopentanecarbox-
amido - 5 - phenylsulphonyl - phenyl) - N' - methoxycarbonyl - N'' - propionyl-
guanidine, N - (2 - cyclohexanecarboxamido - 5 - phenylsulphonyl - phenyl) - N'-
methoxycarbonyl - N'' - propionyl - guanidine, N - (2 - benzamido - 5 - phenyl-
sulphonyl - phenyl) - N' - methoxycarbonyl - N'' - propionyl - guanidine, N - (2-
acétamido - 5 - phenylsulphonyl - phenyl) - N' - methoxycarbonyl - N'' - acetyl-
guanidine, N - (2 - acetamido - 5 - phenylsulphonyl - phenyl) - N' - methoxy-
carbonyl - N'' - butyryl - guanidine, N - (2 - acetamido - 5 - phenylsulphonyl-
phenyl) - N' - methoxycarbonyl - N'' - cyclohexanecarbonyl - guanidine, N - (2-
acetamido - 5 - phenylsulphonyl - phenyl) - N' - methoxycarbonyl - N'' - benzoyl-
guanidine, N - (2 - acetamido - 5 - phenylsulphonyl - phenyl) - N' - methoxycar-
bonyl - N'' - phenylacetyl - guanidine, N - (2 - acetamido - 5 - phenylsulphonyl-
phenyl) - N' - methoxycarbonyl - N'' - phenoxyacetyl - guanidine, N - [2 - (2'-
methylureido) - 5 - phenylsulphonyl - phenyl] - N' - methoxycarbonyl - N''-
propionyl - guanidine, N - [2 - (2' - ethylureido) - 5 - phenylsulphonyl - phenyl]-
N' - methoxycarbonyl - N'' - propionyl - guanidine, N - [2 - (2' - butylureido) - 5 -
phenylsulphonyl - phenyl] - N' - methoxycarbonyl - N'' - propionyl - guanidine,
N - [2 - (2' - ω - cyanopentylureido) - 5 - phenylsulphonyl - phenyl] - N' - methoxy-
carbonyl - N'' - propionyl - guanidine, N - [2 - (2' - β - methoxy - methylureido)-
5 - phenylsulphonyl - phenyl] - N' - methoxycarbonyl - N'' - propionyl - guanidine,
N - [2 - (2' - benzylureido) - 5 - phenylsulphonyl - phenyl] - N' - methoxy-
carbonyl - N'' - propionyl - guanidine, N - [2 - (2' - phenylureido) - 5 - phenylsulpho-
nyl - phenyl] - N' - methoxycarbonyl - N'' - propionyl - guanidine, N'' - acet-
amido - 5 - phenylsulphonyl - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine,
N - (2 - acetamido - 5 - phenylsulphonyl - phenyl) - N',N'' - bis - ethoxycarbonyl-
guanidine, N - (2 - acetamido - 5 - phenylsulphonyl - phenyl) - N',N'' - bis - iso-
propoxycarbonyl - guanidine, N - (2 - acetamido - 5 - phenylsulphonyl - phenyl)-
N',N'' - bis - sec. - butoxycarbonyl - guanidine, N - (2 - propionamido - 5 - phenyl-
sulphonyl - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - (2 - butyramido -
5 - phenylsulphonyl - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - (
2 - iso - butyramido - 5 - phenylsulphonyl - phenyl) - N',N'' - bis - methoxy-
carbonyl - guanidine, N - (2 - valeramido - 5 - phenylsulphonyl - phenyl) - N',N''-
bis - methoxycarbonyl - guanidine, N - (2 - iso - valeramido - 5 - phenylsulphonyl-
phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - (2 - caproamido - 5 -
phenylsulphonyl - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - (2-
iso - caproamido - 5 - phenylsulphonyl - phenyl) - N',N'' - bis - methoxy - carbonyl-
guanidine, N - (2 - cyclopentanecarboxamido - 5 - phenylsulphonyl - phenyl)-
N',N'' - bis - methoxycarbonyl - guanidine, N - (2 - cyclohexanecarboxamido - 5 -
phenylsulphonyl - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - (2-

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phenylacetamido - 5 - phenylsulphonyl - phenyl) - N',N'' - bis - methoxycarbonyl-guanidine, N - (2 - phenoxyacetamido - 5 - phenylsulphonyl - phenyl) - N',N'' - bis-methoxycarbonyl - guanidine, N - (2 - benzamido - 5 - phenylsulphonyl - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - (2' - methylureido) - 5 - phenylsulphonyl - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - (2' - ethylureido) - 5 - phenylsulphonyl - phenyl] - N',N'' - bis - methoxycarbonyl-guanidine, N - [2 - (2' - butylureido) - 5 - phenylsulphonyl - phenyl] - N',N'' - bis-methoxycarbonyl - guanidine, N - [2 - (2' - ω - cyanopentylureido) - 5 - phenylsulphonyl - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - (2' - β - methoxyethyl - ureido) - 5 - phenylsulphonyl - phenyl] - N',N'' - bis - methoxycarbonyl-guanidine, N - [2 - (2' - benzylureido) - 5 - phenylsulphonyl - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - (2' - phenylureido) - 5 - phenylsulphonyl - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propionamido - 5 - (4 - methylphenylsulphonyl) - phenyl] - N',N'' - bis - methoxycarbonyl-guanidine, N - [2 - propionamido - 5 - (3 - methyl - phenylsulphonyl) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propionamido - 5 - (3 - chlorophenylsulphonyl) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propionamido - 5 - (4 - chlorophenylsulphonyl) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propionamido - 5 - (3 - chlorophenylsulphonyl) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propionamido - 5 - (4 - methoxy - phenylsulphonyl) - phenyl] - N',N'' - bis - methoxycarbonyl-guanidine, N - [2 - propionamido - 5 - (3 - methoxy - phenylsulphonyl) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propionamido - 5 - (4 - methylthio - phenylsulphonyl) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propionamido - 5 - (3 - methylthio - phenylsulphonyl) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propionamido - 5 - (4 - cyanophenylsulphonyl) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propionamido - 5 - (4 - acetyl - phenylsulphonyl) - phenyl] - N',N'' - bis - methoxycarbonyl-guanidine, N - [2 - propionamido - 5 - (3 - cyanophenylsulphonyl) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propionamido - 5 - (4 - propionyl-phenylsulphonyl) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propionamido - 5 - (4 - acetylamino - phenylsulphonyl) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propionamido - 5 - (4 - methoxycarbonyl-phenylsulphonyl) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine, N - [2 - propionamido - 5 - (3,4 - dimethyl - phenylsulphonyl) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine and N - (2 - propionamido - 5 - (3,4 - dichloro - phenylsulphonyl) - phenyl] - N',N'' - methoxycarbonyl - guanidine.

As stated above, the invention also relates to the use in human and veterinary medicine of the compounds of the invention.

The present invention provides a pharmaceutical composition containing as active ingredient a compound of the invention in admixture with a solid or liquefied gaseous diluent, or in admixture with a liquid diluent other than a solvent of a molecular weight less than 200 (preferably less than 350) except in the presence of a surface active agent.

The invention further provides a pharmaceutical composition containing as active ingredient a compound of the invention in the form of a sterile or isotonic aqueous solution.

The invention also provides a medicament in dosage unit form comprising a compound of the invention either alone or in admixture with a diluent.

The invention also provides a medicament in the form of tablets (including lozenges and granules), dragees, capsules, pills, ampoules or suppositories comprising a compound of the invention either alone or in admixture with the diluent.

"Medicament" as used in this specification means physically discrete coherent portions suitable for medical administration. "Medicament in dosage unit form" as used in this specification means physically discrete coherent portions suitable for medical administration each containing a daily dose or a multiple (up to four times) of sub-multiple (down to a fortieth) of a daily dose of the compound of the invention. Whether the medicament contains a daily dose or, for example, a half, a third, or a quarter of a daily dose will depend on whether the medicament is to be administered once or, for example, twice, three times or four times a day respectively.

The pharmaceutical compositions according to the invention may, for example, take the form of ointments, gels, pastes, creams, sprays (including aerosols), lotions, suspensions, solutions and emulsions of the active ingredient in

aqueous or non-aqueous diluents, syrups, granules or powders.

The diluents to be used in pharmaceutical compositions (e.g. granulates) adapted to be formed into tablets, dragees, capsules and pills include the following: (a) fillers and extenders, e.g. starch, sugars, mannitol, and silicic acid; (b) binding agents, e.g. carboxymethyl cellulose and other cellulose derivatives, alginates, gelatine and polyvinyl pyrrolidone; (c) moisturizing agents, e.g. glycerol; (d) disintegrating agents, e.g. agar-agar, calcium carbonate and sodium bicarbonate; (e) agents for retarding dissolution e.g. paraffin; (f) resorption accelerators, e.g. quaternary ammonium compounds; (g) surface active agents, e.g. cetyl alcohol, glycerol monostearate; (h) adsorptive carriers, e.g. kaolin and bentonite; (i) lubricants, e.g. talc, calcium and magnesium stearate and solid polyethylene glycols.

The tablets, dragees, capsules and pills formed from the pharmaceutical compositions of the invention can have the customary coatings, envelopes and protective matrices, which may contain opacifiers. They can be so constituted that they release the active ingredient only or preferably in a particular part of the intestinal tract, possibly over a period of time. The coatings, envelopes and protective matrices may be made, for example, of polymeric substances or waxes.

The ingredient can also be made up in microencapsulated form together with one or several of the above-mentioned diluents.

The diluents to be used in pharmaceutical compositions adapted to be formed into suppositories can, for example, be the usual water-soluble or water-insoluble diluents, such as polyethylene glycols and fats (e.g. cocoa oil and high esters [e.g. C₁₄-alcohol with C₁₆-fatty acid]) or mixtures of these diluents.

The pharmaceutical compositions which are ointments, pastes, creams and gels can, for example, contain the usual diluents, e.g. animal and vegetable fats, waxes, paraffins, starch, tragacanth, cellulose derivatives, polyethylene glycols, silicones, bentonites, silicic acid, talc and zinc oxide or mixtures of these substances.

The pharmaceutical compositions which are powders and sprays can, for example, contain the usual diluents, e.g. lactose, talc, silicic acid, aluminium hydroxide, calcium silicate, and polyamide powder or mixtures of these substances. Aerosol sprays can, for example, contain the usual propellants, e.g. chlorofluoro-hydrocarbons.

The pharmaceutical compositions which are solutions and emulsions can, for example, contain the customary diluents (with, of course, the above-mentioned exclusion of solvents having a molecular weight below 200 except in the presence of a surface-active agent), such as solvents, dissolving agents and emulsifiers; specific examples of such diluents are water, ethyl alcohol, isopropyl alcohol, ethyl carbonate, ethyl acetate, benzyl alcohol, benzyl benzoate, propylene glycol, 1,3-butylene glycol, dimethylformamide, oils [for example ground nut oil], glycerol, tetrahydrofurfuryl alcohol, polyethylene glycols and fatty acid esters of sorbitol or mixtures thereof.

For parenteral administration, the solutions and emulsions should be sterile, and, if appropriate, blood-isotonic.

The pharmaceutical compositions which are suspensions can contain the usual diluents, such as liquid diluents, e.g. water, ethyl alcohol, propylene glycol, surface-active agents (e.g. ethoxylated isostearyl alcohols, polyoxyethylene sorbitate and sorbitane esters), microcrystalline cellulose, aluminium metahydroxide, bentonite, agar-agar and tragacanth or mixtures thereof.

All the pharmaceutical compositions according to the invention can also contain colouring agents and preservatives as well as perfumes and flavouring additions (e.g. peppermint oil and eucalyptus oil) and sweetening agents (e.g. saccharin).

The pharmaceutical compositions according to the invention preferably contain from 0.1 to 99.5, more preferably from 0.5 to 90% of the active ingredient by weight of the total composition.

In addition to a compound of the invention, the pharmaceutical compositions and medicaments according to the invention can also contain other pharmaceutically active compounds. They may also contain a plurality of compounds of the invention.

Any diluent in the medicaments of the present invention may be any of those mentioned above in relation to the pharmaceutical compositions of the present invention. Such medicaments may include solvents of molecular weight less than 200 as sole diluent.

(35)

The discrete coherent portions constituting the medicament according to the invention (whether in dosage unit form or not), may be, for example, any of the following: tablets, (including lozenges and granules), pills, dragees, capsules, suppositories and ampoules. Some of these forms may be made up for delayed release of the active ingredient. Some, such as capsules, include a protective envelope which renders the portions of the medicament physically discrete and coherent.

The preferred daily dose for administration of the medicaments of the invention is from 5 mg to 5 g of active ingredient.

The production of the above-mentioned pharmaceutical compositions and medicaments is carried out by any method known in the art, for example, by mixing the active ingredient.

The production of the above-mentioned pharmaceutical compositions and medicaments is carried out by any method known in the art, for example, by mixing the active ingredient(s) with the diluent(s) to form a pharmaceutical composition (e.g. a granulate) and then forming the composition into the medicament (e.g. tablets).

This invention further provides a method of combating (including prevention, relief and cure of) the above mentioned diseases in human and non-human animals, which comprises administering to the animals a compound of the invention alone or in admixture with a diluent or in the form of a medicament according to the invention.

It is envisaged that these active compounds will be administered perorally, parenterally (for example intramuscularly, intraperitoneally, intravenously, or, especially, subcutaneously), rectally or locally, preferably orally. Preferred pharmaceutical compositions and medicaments are therefore those adapted for oral administration such as tablets, dragees, capsules and pills. Administration in the method of the invention is preferably perorally, but parenteral, especially subcutaneous, administration and dermal application are also possible.

In general it has proved advantageous to administer amounts of from 0.1 mg to 50 mg/kg of body weight per day to achieve effective results. Nevertheless, it can at times be necessary to deviate from those dosage rates, and in particular to do so as a function of the nature and body weight of the human or animal subject to be treated, the individual reaction of this subject to the treatment, the type of formulation in which the active ingredient is administered and the mode in which the administration is carried out, and the point in the progress of the disease or interval at which it is to be administered. Thus it may in some case suffice to use less than the above-mentioned minimum dosage rate, whilst other cases the upper limit mentioned must be exceeded to achieve the desired results. Where larger amounts are administered it can be advisable to divide these into several individual administrations over the course of the day.

The compounds prepared in accordance with the invention show a surprisingly improved action against one or more of the following nematodes and cestodes:

1. Hookworms (for example *Uncinaria stenocephala*, *Ancylostoma canium* and *Bunostomum trigonocephalum*).
2. *Trichostrongylidae* (for example *Nippostrongylus muris*, *Haemonchus contortus*, *Trichostrongylus colubriformis* and *Ostertagia circumcincta*).
3. *Strongylidae* (for example *Oesophagostomum columbianum*).
4. *Rhabditidae* (for example *Strongyloides ratti*).
5. *Ascaridae* (for example *Ascaris suum*, *Toxocara canis* and *Toxascaris leonina*).
6. Threadworms (for example *Aspiculuris tetraptera*).
7. Heterakidae (for example *Heterakis spumosa*).
8. Whipworms (for example *Trichuris muris*).
9. Filariae (for example *Litomosoides carinii* and *Dipetalonema witei*).
10. Cestodes (for example *Hymenolepis nana*, *Taenia pisiformis* and *Echinococcus multilocularis*).

The action of the compounds of the invention was tested experimentally by oral and parenteral administration to test animals heavily infested with parasites. The dosages used were tolerated very well by the test animals.

The examples which follow illustrate in more detail the anthelmintic action of the preferred active compounds according to the invention.

Example A.

Hookworm test/sheep and dogs

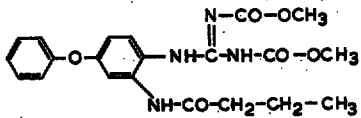
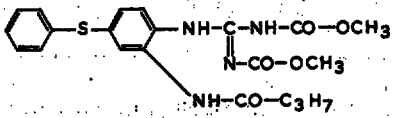
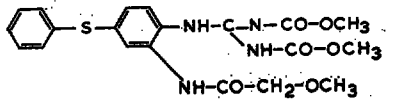
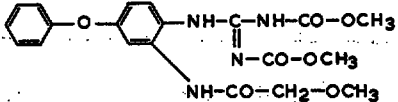
5 Sheep experimentally infected with *Bunostomum trigonocephalum* were treated after the end of the pre-patency period of the parasites. The amount of active compound was administered orally as pure active compound in gelatine capsules. 5

Dogs experimentally infected with *Uncinaria stenocephala* or *Ancylostoma caninum* were treated after the end of the pre-patency period of the parasites. The amount of active compound was administered orally as pure active compound in gelatine capsules.

10 The effectiveness is determined by counting the worms expelled after the treatment and, after dissection, the worms surviving in the test animals, and calculating the percentage of worms expelled. 10

15 The active compounds tested, the dosages used and the action can be seen from the table which follows, which lists the active compounds and the minimum dosage, in mg of active compound per kg of body weight of the test animal, which reduces the worm infection of the test animal by more than 90%. 15

Table 1 (accompanying Example A)

Example No.	Active compound according to the invention	Minimum effective dose (Red. > 90%) in mg/kg
A1		<i>Bunostomum trig.</i> 2.5
A2		<i>Bunostomum trig.</i> 1
A3		<i>Uncinaria sten.</i> 5 <i>Bunostomum trig.</i> 1
A4		<i>Bunostomum trig.</i> 2.5

Example B.

Nippostrongylus muris-rats

20 Rats experimentally infected with *Nippostrongylus muris* were treated after the end of the pre-patency period of the parasites. The amount of active compound was administered orally as an aqueous suspension. 20

The effectiveness of the preparation is determined by counting, after dissection, the worms which have remained in the test animal, in comparison to untreated control animals, and calculating the percentage action therefrom. 25

Table 2 lists the active compounds and the minimum dosage which reduces the worm infection of the test animals by more than 90%, in comparison to related preparations.

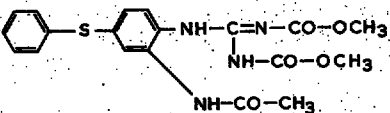
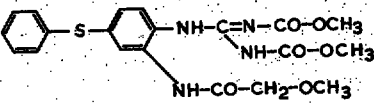
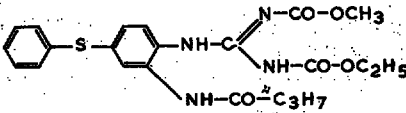
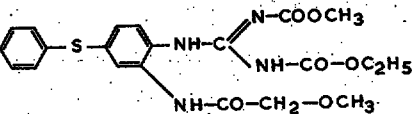
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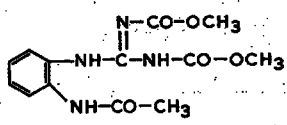
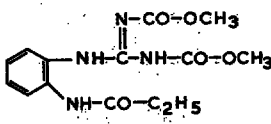
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Table 2 (accompanying Example B)

Example No.	Active compound according to the invention	Minimum effective dose (Red. > 90%) in mg/kg
B1		25
B2		25
B3		50
B4		50

Related preparations for comparison (known from DOS (German Published Specification) 2,117,293):

	Minimum effective dose (Red. > 90%) in mg/kg
	>500
	500

Example C.

Stomach and intestine worm test/sheep

Sheep experimentally infected with *Haemonchus contortus* or *Trichostrongylus colubriformis* were treated after the end of the pre-patency period of the parasites. The amount of active compound was administered orally as pure active compound in gelatine capsules.

The effectiveness is determined by quantitatively counting the worm eggs, excreted with the faeces, before and after the treatment.

Complete cessation of the excretion of eggs after the treatment denotes that the worms have been expelled or have been so damaged that they can no longer produce any eggs (effective dose).

The active compounds tested and the effective dosages (minimum effective dose) can be seen from Table 3.

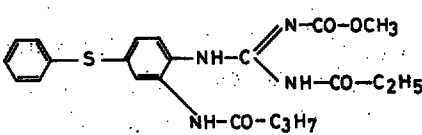
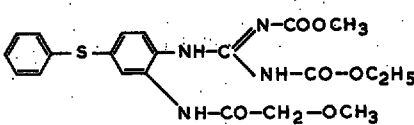
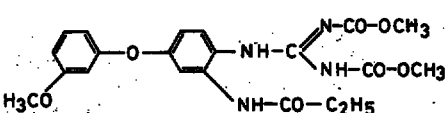
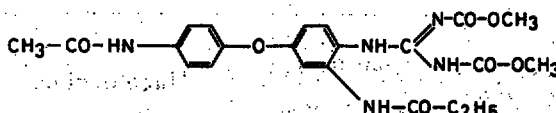
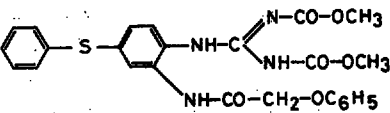
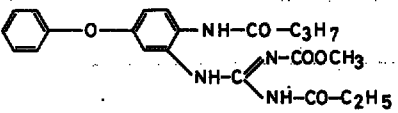
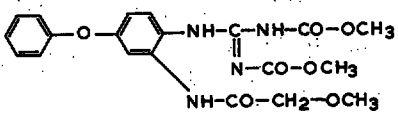
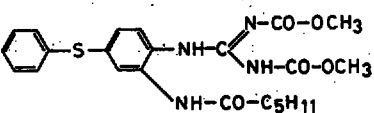
Table 3 (accompanying Example C)

Example No.	Active compound according to the invention	Minimum effective dose (Red. > 90%) in mg/kg
C1		Haemonchus cont. 5 Trichostrong. col. 5
C2		Haemonchus cont. 2.5 Trichostrong col. 2.5
C3		Haemonchus cont. 2.5 Trichostrong col. 2.5
C4		Haemonchus cont. 5 Trichostrong col. 5
C5		Haemonchus cont. 5
C6		Haemonchus cont. 2.5 Trichostrong col. 2.5
C7		Haemonchus cont. 2.5 Trichostrong col. 2.5

Table 3 (continuation)

Example No.	Active compound according to the invention	Minimum effective dose (Red. > 90%) in mg/kg
C8		Haemonchus cont. 0.5 Trichostrong col. 1
C9		Haemonchus cont. 2.5 Trichostrong col. 5
C10		Haemonchus cont. 5
C11		Haemonchus cont. 5 Trichostrong col. 1
C12		Haemonchus cont. 2.5 Trichostrong col. 2.5
C13		Trichostrong col. 5 Haemonchus cont. 10
C14		Haemonchus cont. 0.5 Trichostrong col. 1
C15		Haemonchus cont. 2.5 Trichostrong col. 2.5

Table 3 (continuation)

Example No.	Active compound according to the invention	Minimum effective dose (Red. > 90%) in mg/kg
C16		Haemonchus cont. 2.5 Trichostrong col. 2.5
C17		Haemonchus cont. 1 Trichostrong col. 2.5
C18		Trichostrong col. 5
C19		Haemonchus cont. 2.5
C20		Haemonchus 2.5
C21		Trichostrong col. 5
C22		Haemonchus cont. 2.5 Trichostrong col. 2.5
C23		Haemonchus cont. 1

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Table 3 (continuation)

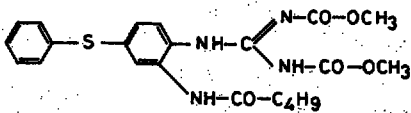
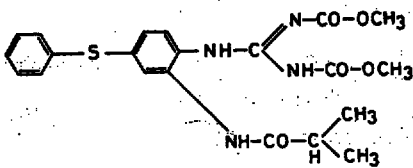
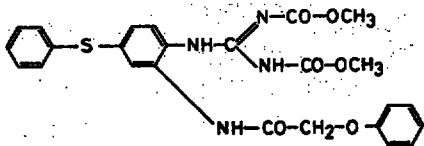
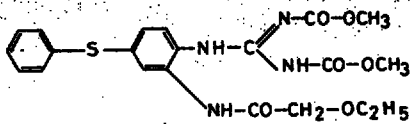
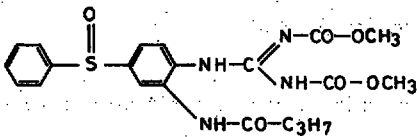
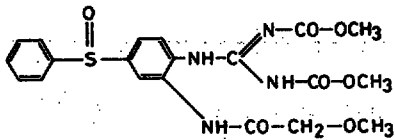
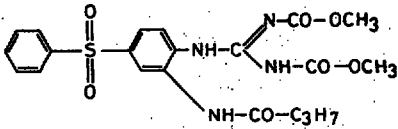
Example No.	Active compound according to the invention	Minimum effective dose (Red. > 90%) in mg/kg
C24		Haemonchus cont. 1
C25		Haemonchus cont. 2.5
C26		Haemonchus cont. 2.5 Trichostrong col. 2.5
C27		Haemonchus cont. 1 Trichostrong col. 1
C28		Haemonchus cont. 1 Trichostrong col. 1
C29		Haemonchus cont. 0.5 Trichostrong col. 1
C30		Haemonchus cont. 1

Table 3 (continuation)

Example No.	Active compound according to the invention	Minimum effective dose (Red. > 90%) in mg/kg
C31		Haemonchus cont. 5
C32		Haemonchus cont. 5
C33		Haemonchus cont. 2.5
C34		Haemonchus cont. 2.5
Related preparations for comparison (known from DOS (German Published Specification) 2,117,293)		
		Haemonchus cont. >100 Trichostrong col. 50
		Haemonchus cont. 50 Trichostrong col. 10

Example D.

Ascarid test/dogs and rats

Dogs naturally or experimentally infected with *Toxascaris leonina* were given the amount of active compound administered orally as pure active compound in gelatine capsules.

The effectiveness is determined by counting the worms expelled after the treatment and, after dissection, the worms surviving in the animals, are calculated in percentage of worms expelled.

Rats experimentally infected with *Ascaris suum* were treated 2 to 4 days after infection. The amount of active compound was administered orally as an aqueous suspension.

The effectiveness of the preparation is determined by counting, after dissection, the worms which have remained in the test animal in comparison to untreated control animals and calculating the percentage action therefrom.

Table 4 lists the active compounds and the minimum dosage which reduces the worm infection of the test animals by more than 90%, in comparison to related preparations.

Table 4 (accompanying Example D)

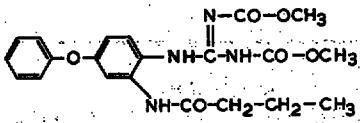
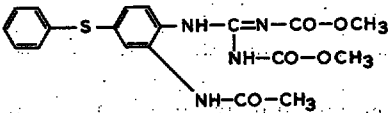
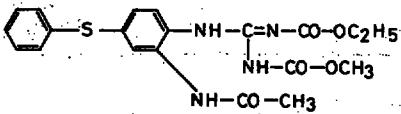
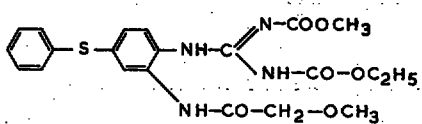
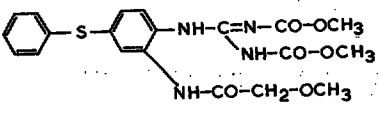
Example No.	Active compound according to the invention	Minimum effective dose (Red. > 90%) in mg/kg
D1		<i>Toxascaris leonina</i> 25
D2		<i>Ascaris suum</i> -Larv. 25
D3		<i>Ascaris suum</i> -Larv. 50
D4		<i>Toxascaris</i> 5 <i>Ascaris suum</i> -Larv. 100
D5		<i>Toxascaris</i> 5 <i>Ascaris suum</i> Larv. 25

Table 4 (continuation)

Example No.	Active compound according to the invention	Minimum effective dose (Red. > 90%) in mg/kg
D6		Ascaris suum Larv. 50
D7		Ascaris suum Larv. 50
D8		Ascaris suum Larv. 50
Related preparation for comparison (known from DOS (German Published Specification) 2,117,293)		
		inactive
		inactive

Example E.

Aspicularis tetraptera/mice

Mice naturally infected with *Aspicularis tetraptera* were treated after the end of the pre-patency period of the parasites.

The amount of active compound was administered orally as an aqueous suspension.

The effectiveness of the preparation is determined by counting, after dissection, the worms which have remained in the test animal, in comparison to untreated control animals, and calculating the percentage action therefrom. The results are shown in Table 5.

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Table 5 (accompanying Example E)

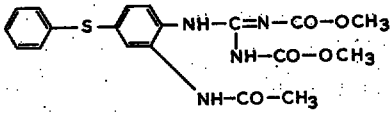
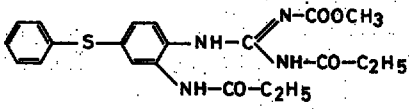
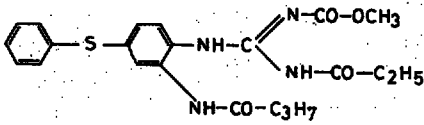
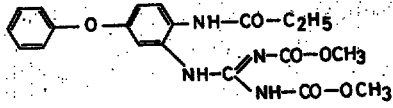
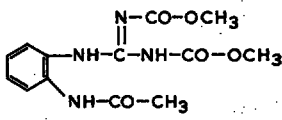
Example No.	Active compound according to the invention.	Minimum effective dose (Red. > 90%) in mg/kg
E1		50
E2		25
E3		25
E4		50

Table 5 (continuation)

Known preparations for comparison (known from DOS
(German Published Specification) 2,117,293

	Minimum effective dose (Red. > 90%) in mg/kg
	inactive

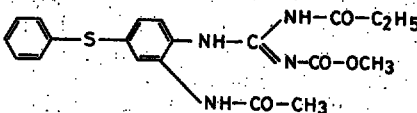
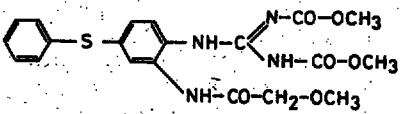
Example F.

Hymenolepis nana/mice

Test animals experimentally infected with *H. nana* are treated after the end of the pre-patency of the parasites. The amount of active compound is administered orally as an aqueous suspension.

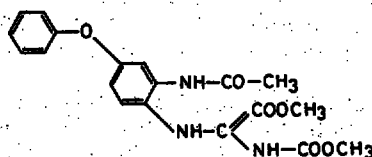
The effectiveness of the preparation is determined by counting, after dissection, the worms which have remained in the test animal in comparison to untreated control animals and calculating the percentage action therefrom. The results are shown in Table 6.

Table 6 (accompanying Example F)

Example No.	Active compound according to the invention	Effective dose (Red. > 90%) in mg/kg
F1		500
F2		500

The following Examples illustrate methods of preparing compounds in accordance with the invention.

Example 1.



24.2 g (0.1 mol) of 2-amino-5-phenoxy-acetanilide of melting point 120°C together with 20.6 g (0.1 mol) of N,N'-bis-methoxycarbonyl-isothiourea-S-methyl-ether and 2.6 g (0.015 mol) of p-toluenesulphonic acid in 200 ml of absolute methanol are boiled for 3 hours whilst stirring under reflux. The mixture is then filtered hot and after cooling the N-(2-acetamido-4-phenoxyphenyl)-N',N''-bis-methoxycarbonyl-guanidine which has crystallised out is filtered off, rinsed with ether and dried in a high vacuum; melting point 168°C, yield 27 g = 67.5% of theory.

The yield can be increased by working up the mother liquor.

Examples 2 to 33.

In these Examples, a series of reactions analogous to Example 1 was carried out with the following results:

2. 2-amino-5-phenoxy-acetanilide and N,N'-bis-ethoxycarbonyl-isothiourea-S-methyl-ether gave N-(2-acetamido-4-phenoxyphenyl)-N',N''-bis-ethoxycarbonyl-guanidine of melting point 159°C;

3. 2-amino-5-phenoxy-acetanilide and N,N'-bis-isopropoxycarbonyl-isothiourea-S-methyl-ether gave N-(2-acetamido-4-phenoxyphenyl)-N',N''-bis-isopropoxycarbonyl-guanidine of melting point 165°C;

4. 2-amino-5-phenoxy-propionanilide of melting point 122°C and N,N'-bis-methoxycarbonyl-isothiourea-S-methyl-ether gave N-(2-propionamido-4-phenoxyphenyl)-N',N''-bis-methoxycarbonyl-guanidine of melting point 143°C;

5. 2-amino-5-phenoxy-propionanilide and N,N'-bis-ethoxycarbonyl-isothiourea-S-methyl-ether gave N-(2-propionamido-4-phenoxyphenyl)-N',N''-bis-ethoxycarbonyl-guanidine of melting point 167°C;

6. 2-amino-5-phenoxy-propionanilide and N,N'-bis-isopropoxycarbonyl-isothiourea-S-methyl-ether gave N-(2-propionamido-4-phenoxyphenyl)-N',N''-bis-isopropoxycarbonyl-guanidine of melting point 161°C;

7. 2-amino-5-phenoxy-butyranilide of melting point 118°C and N,N'-bis-methoxycarbonyl-isothiourea-S-methyl-ether gave N-(2-butyramido-4-

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- phenoxy - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine of melting point 136°C;
- 5 8. 2 - amino - 5 - phenoxy - butyranilide and N,N' - bis - ethoxycarbonyl - isothiurea - S - methyl - ether gave N - (2 - butyramido - 4 - phenoxyphenyl) - N',N'' - bis - ethoxycarbonyl - guanidine of melting point 142°C;
9. 2 - amino - 5 - phenoxy - butyranilide and N,N' - bis - isopropoxycarbonyl - isothiurea - S - methyl - ether gave N - (2 - butyramido - 4 - phenoxyphenyl) - N',N'' - bis - iso - propoxycarbonyl - guanidine of melting point 163°C;
- 10 10. 2 - amino - 5 - phenoxy - benzanilide of melting point 140°C and N,N' - bis - methoxycarbonyl - isothiurea - S - methyl - ether gave N - (2 - benzamido - 4 - phenoxyphenyl) - N',N'' - bis - methoxycarbonyl - guanidine of melting point 157°C;
11. 2 - amino - 5 - phenoxy - benzanilide and N,N' - bis - ethoxycarbonyl - isothiurea - S - methyl - ether gave N - (2 - benzamido - 4 - phenoxyphenyl) - N',N'' - bis - ethoxycarbonyl - guanidine of melting point 141°C;
- 15 12. 2 - amino - 5 - phenoxy - benzanilide and N,N' - bis - iso - propoxycarbonyl - isothiurea - S - methyl - ether gave N - (2 - benzamido - 4 - phenoxyphenyl) - N',N'' - bis - iso - propoxycarbonyl - guanidine of melting point 188°C;
13. 2 - amino - 5 - phenoxy - cyclohexanecarboxylic acid anilide of melting point 142°C and N,N' - bis - methoxycarbonyl - isothiurea - S - methyl - ether gave N - (2 - cyclohexanecarboxamido - 4 - phenoxy - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine of melting point 155°C;
- 20 14. 2 - amino - 5 - phenoxy - cyclohexanecarboxylic acid anilide and N,N' - bis - ethoxycarbonyl - isothiurea - S - methyl - ether gave N - (2 - cyclohexanecarboxamido - 4 - phenoxy - phenyl) - N',N'' - bis - ethoxycarbonyl - guanidine of melting point 132°C;
- 25 15. 2 - amino - 5 - phenoxy - methoxyacetanilide of melting point 93°C and N,N' - bis - methoxycarbonyl - isothiurea - S - methylether gave N - (2 - methoxyacetamido - 4 - phenoxy - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine of melting point 145°C;
- 30 16. 2 - amino - 5 - (3 - chloro - phenoxy) - acetanilide and N,N' - bis - methoxycarbonyl - isothiurea - S - methyl - ether gave N - [2 - acetamido - 4 - (3 - chlorophenoxy) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine of melting point 160—161°C;
- 35 17. 2 - amino - 5 - (3 - chloro - phenoxy) - butyranilide - and N,N' - bis - methoxycarbonyl - isothiurea - S - methyl - ether gave N - [2 - butyramido - 4 - (3 - chlorophenoxy) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine of melting point 163°C;
- 40 18. 2 - amino - 5 - (4 - chloro - phenoxy) - acetanilide of melting point 150—151°C and N,N' - bis - methoxycarbonyl - isothiurea - S - methyl - ether gave N - [2 - acetamido - 4 - (4 - chlorophenoxy) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine of melting point 170°C;
19. 2 - amino - 5 - (4 - chloro - phenoxy) - butyranilide of melting point 101°C and N,N' - bis - methoxycarbonyl - isothiurea - S - methyl - ether gave N - [2 - butyramido - 4 - (4 - chloro - phenoxy) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine of melting point 201°C;
- 45 20. 2 - amino - 5 - (3 - fluoro - phenoxy) - butyranilide of melting point 121°C and N,N' - bis - methoxycarbonyl - isothiurea - S - methyl - ether gave N - [2 - butyramido - 4 - (3 - fluoro - phenoxy) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine of melting point 138°C;
- 50 21. 2 - amino - 5 - (3 - fluoro - phenoxy) - methoxyacetanilide of melting point 106°C and N,N' - bis - methoxy - carbonyl - isothiurea - S - methyl - ether gave N - [2 - methoxyacetamido - 4 - (3 - fluorophenoxy) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine of melting point 148°C;
- 55 22. 2 - amino - 5 - (3 - methoxy - phenoxy) - acetanilide of melting point 107—108°C and N,N' - bis - methoxycarbonyl - isothiurea - S - methyl - ether gave N - [2 - acetamido - 4 - (3 - methoxy - phenoxy) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine of melting point 164°C;
- 60 23. 2 - amino - 5 - (3 - methoxy - phenoxy) - propionanilide of melting point 129—130°C and N,N' - bis - methoxycarbonyl - isothiurea - S - methyl - ether gave N - [2 - propionamido - 4 - (3 - methoxy - phenoxy) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine of melting point 133—134°C;
24. 2 - amino - 5 - (4 - methyl - phenoxy) - propionanilide of melting point 125°C and N,N' - bis - methoxycarbonyl - isothiurea - S - methyl - ether gave N - [2 -

propionamido - 4 - (4 - methyl - phenoxy) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine of melting point 165—166°C;

25. 2 - amino - 5 - (4 - methyl - phenoxy) - butyranilide of melting point 122°C and N,N' - bis - methoxycarbonyl - isothiurea - S - methyl - ether gave N - [2 - butyramido - 4 - (4 - methyl - phenoxy) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine of melting point 161—162°C;

26. 2 - amino - 5 - (4 - acetamido - phenoxy) - propionanilide of melting point 200°C and N,N' - bis - methoxycarbonyl - isothiurea - S - methyl - ether gave N - [2 - propionamido - 4 - (4 - acetamido - phenoxy) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine of melting point 197—199°C;

27. 2 - amino - 5 - (4 - acetamido - phenoxy) - butyranilide of melting point 150°C and N,N' - bis - methoxycarbonyl - isothiurea - S - methyl - ether gave N - [2 - butyramido - 4 - (4 - acetamido - phenoxy) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine of melting point 190°C;

28. 2 - amino - 5 - (4 - cyano - phenoxy) - butyr - anilide and N,N' - bis - methoxycarbonyl - isothiurea - S - methyl - ether gave N - [2 - butyramido - 4 - (4 - cyano - phenoxy) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine;

29. 2 - amino - 5 - (4 - fluoro - phenoxy) - butyr - anilide and N,N' - bis - methoxycarbonyl - isothiurea - S - methyl - ether gave N - [2 - butyramido - 4 - (4 - cyano - phenoxy) - phenyl] - N',N'' - bis - methoxy - carbonyl - guanidine;

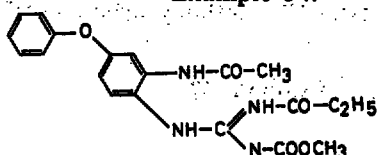
30. 2 - amino - 5 - (4 - acetyl - phenoxy) - butyr - anilide and N,N' - bis - methoxycarbonyl - isothiurea - S - methyl - ether gave N - [2 - butyramido - 4 - (4 - acetyl - phenoxy) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine;

31. 2 - amino - 5 - (3 - acetyl - phenoxy) - butyr - anilide and N,N' - bis - methoxycarbonyl - isothiurea - S - methyl - ether gave N - [2 - butyramido - 4 - (3 - acetyl - phenoxy) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine;

32. 2 - amino - 5 - (4 - methylthio - phenoxy) - butyranilide and N,N' - bis - methoxycarbonyl - isothiurea - S - methyl - ether gave N - [2 - butyramido - 4 - (4 - methylthio - phenoxy) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine;

33. 2 - amino - 5 - (3 - trifluoromethyl - phenoxy) - butyranilide and N,N' - bis - methoxycarbonyl - isothiurea - S - methyl - ether gave N - [2 - butyramido - 4 - (3 - trifluoromethyl - phenoxy) - phenyl] - N',N'' - bis - methoxycarbonyl - guanidine.

Example 34.



24.2 g (0.1 mol) of 2-amino-5-phenoxy-acetanilide together with 22 g (0.1 mol) of N-methoxycarbonyl-N'-propionyl-isothiurea-S-methyl-ether and 2.6 g (0.015 mol) of p-toluene-sulphonic acid in 200 ml of absolute methanol are boiled for 3 hours whilst stirring under reflux. The mixture is then filtered hot and after cooling the N-(2-acetamido-4-phenoxy-phenyl)-N'-methoxycarbonyl-N''-propionyl-guanidine which has crystallised out is filtered off, well rinsed with ether and dried in a high vacuum; melting point 134°C, yield 20 g = 50% of theory. The yield can be increased by working up the mother liquor.

Examples 35 to 46.

In these Examples, a series of experiments analogous to Example 34 was carried out with the following results:—

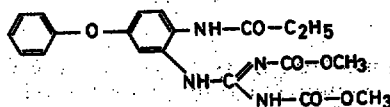
35. 2 - amino - 5 - phenoxy - propion - anilide and N - methoxycarbonyl - N'-propionyl - isothiurea - S - methyl - ether gave N - (2 - propionamido - 4 - phenoxy - phenyl) - N' - methoxycarbonyl - N'' - propionyl - guanidine of melting point 132°C;

36. 2 - amino - 5 - phenoxy - butyranilide and N - methoxycarbonyl - N'-propionyl - isothiurea - S - methyl - ether gave N - (2 - butyramido - 4 - phenoxy - phenyl) - N' - methoxycarbonyl - N'' - propionyl - guanidine - of melting point 125°C;

37. 2 - amino - 5 - phenoxy - benzanilide and N - methoxycarbonyl - N'-propionyl - isothiurea - S - methyl - ether gave N - (2 - benzamido - 4 - phenoxy -

- phenyl) - N' - methoxycarbonyl - N'' - propionyl - guanidine of melting point 151°C;
38. 2 - amino - 5 - phenoxy - cyclohexanecarboxylic acid anilide and N - methoxycarbonyl - N' - propionyl - isothiurea - S - methyl - ether gave N - (2 - cyclohexane - carboxamido - 4 - phenoxy - phenyl) - N' - methoxycarbonyl - N'' - propionyl - guanidine of melting point 139°C;
39. 2 - amino - 5 - phenoxy - acetanilide and N - ethoxycarbonyl - N' - benzoyl - isothiurea - S - methyl - ether gave N - (2 - acetamido - 4 - phenoxy - phenyl) - N' - ethoxycarbonyl - N'' - benzoyl - guanidine of melting point 179°C;
40. 2 - amino - 5 - phenoxy - butyranilide and N - methoxycarbonyl - N' - cyclohexylcarbonyl - isothiurea - S - methyl - ether gave N - (2 - butyramido - 4 - phenoxy - phenyl) - N' - methoxycarbonyl - N'' - cyclohexylcarbonyl - guanidine of melting point 146°C;
41. 2 - amino - 5 - phenoxy - butyranilide and N - methoxycarbonyl - N' - ethoxymethylcarbonyl - isothiurea - S - methyl - ether gave N - (2 - butyramido - 4 - phenoxy - phenyl) - N' - methoxy - carbonyl - N'' - ethoxymethylcarbonyl - guanidine of melting point 137°C;
42. 2 - amino - 5 - (3 - chloro - phenoxy) - acetanilide and N - methoxycarbonyl - N' - propionyl - isothiurea - S - methyl - ether gave N - [2 - acetamido - 4 - (3 - chloro - phenoxy) - phenyl] - N' - methoxycarbonyl - N'' - propionyl - guanidine of melting point 163°C;
43. 2 - amino - 5 - (3 - chloro - phenoxy) - butyranilide and N - methoxycarbonyl - N' - propionyl - isothiurea - S - methyl - ether gave N - [2 - butyramido - 4 - (3 - chloro - phenoxy) - phenyl] - N' - methoxycarbonyl - N'' - propionyl - guanidine of melting point 163°C;
44. 2 - amino - 5 - (4 - acetamido - phenoxy) - propion - anilide and N - methoxycarbonyl - N' - propionyl - isothiurea - S - methyl - ether gave N - [2 - propionamido - 4 - (4 - acetamido - phenoxy) - phenyl] - N' - methoxycarbonyl - N'' - propionyl - guanidine of melting point 190°C;
45. 2 - amino - 5 - (4 - acetamido - phenoxy) - butyranilide and N - methoxycarbonyl - N' - propionyl - isothiurea - S - methylether gave N - [2 - butyramido - 4 - (4 - acetamido - phenoxy) - phenyl] - N' - methoxycarbonyl - N'' - propionyl - guanidine of melting point 178—180°C;
46. 2 - amino - 5 - (4 - methyl - phenoxy) - butyranilide and N - methoxycarbonyl - N' - propionyl - isothiurea - S - methyl - ether gave N - [2 - butyramido - 4 - (4 - methyl - phenoxy) - phenyl] - N' - methoxycarbonyl - N'' - propionyl - guanidine of melting point 135°C.

Example 47.

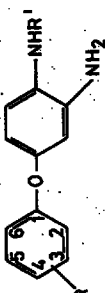
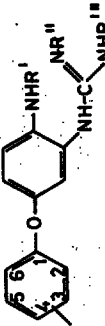


- 40 12.8 g (0.05 mol) of 2-amino-4-phenoxy-propionanilide (melting point 110—111°C) in 100 ml of methanol are heated with 10.3 g (0.05 mol) of N,N'-bis-methoxycarbonyl-isothiurea-S-methyl-ether, with the addition of 1 g of p-toluenesulphonic acid, for 3 hours under reflux. After cooling, the precipitate is filtered off and washed with ether, and after drying 11.1 g of N-(2-propionamido-5-phenoxy-phenyl)-N',N'-bis-methoxycarbonyl-guanidine of melting point 148—149°C are obtained.

Examples 48 to 72.

- 50 In these Examples a series of reactions analogous to Example 47 was carried out using the N,N'-disubstituted isothiurea-S-methyl ethers and 2-amino-4-phenoxy-anilides shown in Table 7. The resulting compounds are described in Table 7.

Table 7 (Examples 48 to 72)

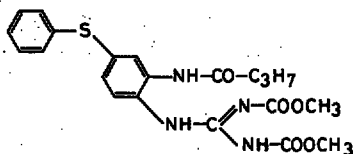
Example No.	Starting material:		m.p. (°C)	Compounds prepared according to the invention:					
		R		R'		R	R''	R'''	m.p. (°C)
48	H	COCH ₃	122—123	H	COCH ₃	COOCH ₃	COOCH ₃	COOCH ₃	181—182
49	H	COCH ₃	108	H	COCH ₃	COOCH ₃	COOCH ₃	COC ₂ H ₅	161—163
50	H	COC ₃ H ₇		H	COC ₃ H ₇	COOCH ₃	COOCH ₃	COOCH ₃	164
51	H	COC ₃ H ₇		H	COC ₃ H ₇	COOCH ₃	COOCH ₃	COC ₂ H ₅	155—156
52	H	COC ₃ H ₇		H	COC ₃ H ₇	COOCH ₃	COOCH ₃	COOCH ₃	
53	H	COC ₃ H ₇		H	COC ₃ H ₇	COOCH ₃	COOCH ₃	COOCH ₃	
54	H	COOCH ₃		H	COOCH ₃	COOCH ₃	COOCH ₃	COOCH ₃	
55	H	COOC ₂ H ₅		H	COOC ₂ H ₅	COOCH ₃	COOCH ₃	COOCH ₃	
56	H	COC ₃ H ₇		H	COC ₃ H ₇	COOCH ₃	COOCH ₃	COOCH ₂ —CH=CH ₂	
57	H	COC ₃ H ₇		H	COC ₃ H ₇	COOCH ₃	COOCH ₃	COOCH ₂ —C≡CH	
58	H	COC ₄ H ₉		H	COC ₄ H ₉	COOCH ₃	COOCH ₃	COOCH ₃	
59	H	COC ₄ H ₉ (iso)		H	COC ₄ H ₉ (iso)	COOCH ₃	COOCH ₃	COOCH ₃	

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Table 7 (continuation)

Example No.	Starting material:		Compounds prepared according to the invention:					
	R	R'	m.p. (°C)	R	R'	R''	R'''	m.p. (°C)
60	H	COCH ₂ -OCH ₃		H	CO-CH ₂ -OCH ₃	COOCH ₃	COOCH ₃	
61	H	COCH ₂ -O-C ₆ H ₅		H	CO-CH ₂ -OC ₆ H ₅	COOCH ₃	COOCH ₃	
62	H	COC ₃ H ₇		H	COC ₃ H ₇	COOCH ₃	COOCH ₃ ↔ COC ₃ H ₇	
63	4-CH ₃	COC ₃ H ₇		4-CH ₃	COC ₃ H ₇	COOCH ₃	COOCH ₃	
64	3-CH ₃	COC ₃ H ₇		3-CH ₃	COC ₃ H ₇	COOCH ₃	COOCH ₃	
65	2-CH ₃	COC ₃ H ₇		2-CH ₃	COC ₃ H ₇	COOCH ₃	COOCH ₃	
66	4-Cl	COC ₃ H ₇		4-Cl	COC ₃ H ₇	COOCH ₃	COOCH ₃	
67	3-Cl	COC ₃ H ₇		3-Cl	COC ₃ H ₇	COOCH ₃	COOCH ₃	
68	4-C ₂ H ₅	COC ₃ H ₇		4-C ₂ H ₅	COC ₃ H ₇	COOCH ₃	COOCH ₃	
69	3-SCH ₃	COC ₃ H ₇		3-SCH ₃	COC ₃ H ₇	COOCH ₃	COOCH ₃	
70	3-OCH ₃	COC ₃ H ₇		3-OCH ₃	COC ₃ H ₇	COOCH ₃	COOCH ₃	
71	3-CF ₃	COC ₃ H ₇		3-CF ₃	COC ₃ H ₇	COOCH ₃	COOCH ₃	
72	3,5-(CH ₃) ₂	COC ₃ H ₇		3,5-(CH ₃) ₂	COC ₃ H ₇	COOCH ₃	COOCH ₃	

Example 73.

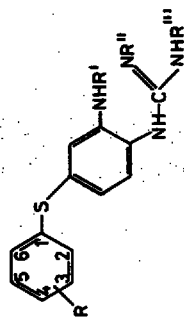


14.3 g (0.05 mol) of 2-amino-5-phenylthio-butyranilide (melting point 152°C) in 100 ml of methanol are heated with 10 g (0.05 mol) of N,N'-bis-methoxycarbonyl-isothiurea-S-methyl-ether, with addition of 1 g of p-toluenesulphonic acid, for 3 hours. After working up analogously to Example 3, 13.8 g of N-(2-butylamido-4-phenylthio-phenyl)-N',N''-bis-methoxycarbonyl-guanidine of melting point 155°C are obtained.

Examples 74 to 157.

In these Examples a series of reactions analogous to Example 73 was carried out using the N,N'-disubstituted isothiurea-S-methyl-ethers and 2-amino-5-phenylthio-anilides shown in Table 8. The resulting compounds are described in Table 8.

Compounds prepared according to the invention:



	R	R'	m.p. (°C)	R	R'	R''	R'''	m.p. (°C)
74	H	COCH ₃	119	H	COCH ₃	COOCH ₃	COOCH ₃	160
75	H	COCH ₃		H	COCH ₃	COOCH ₃	COC ₂ H ₅	131—132
76	H	COCH ₃		H	COCH ₃	COOCH ₃	COOC ₂ H ₅	145—146
77	H	COC ₂ H ₅	145	H	COC ₂ H ₅	COOCH ₃	COOCH ₃	176
78	H	COC ₂ H ₅		H	COC ₂ H ₅	COOCH ₃	COC ₂ H ₅	130
79	H	COC ₂ H ₅		H	COC ₂ H ₅	COOCH ₃	COOC ₂ H ₅	
80	H	COC ₃ H ₇	152	H	COC ₃ H ₇	COOCH ₃	COOC ₂ H ₅	128
81	H	COC ₃ H ₇		H	COC ₃ H ₇	COOCH ₃	COC ₂ H ₅	127
82	H	COC ₄ H ₉	117	H	COC ₄ H ₉	COOCH ₃	COOCH ₃	137
83	H	COC ₄ H ₉ , iso		H	COC ₄ H ₉ , iso	COOCH ₃	COOCH ₃	145
84	H	COOCH ₃		H	COOCH ₃	COOCH ₃	COOCH ₃	
85	H	COOC ₂ H ₅	93—94	H	COOC ₂ H ₅	COOCH ₃	COOCH ₃	159
86	H	COC ₃ H ₁₁	105	H	COC ₃ H ₁₁	COOCH ₃	COOCH ₃	127
87	H	COC ₆ H ₁₃		H	COC ₆ H ₁₃	COOCH ₃	COOCH ₃	
88	H	COC ₂ H ₅		H	COC ₂ H ₅	COOCH ₃	COOCH ₂ —CH=CH ₂	
89	H	COC ₃ H ₁₁		H	COC ₃ H ₁₁	COOCH ₃	COC ₂ H ₅	122

Table 8 (continuation)

Example No.	Starting material:		Compounds prepared according to the invention:			
	R	R'	m.p. (°C)	R	R'	m.p. (°C)
90	H	COC ₂ H ₅	117	H	COC ₂ H ₅	160
91	H	CO—C=CH ₂ CH ₃	120	H	CO—C=CH ₂ CH ₃	161
92	H	CO—CH(CH ₃) ₂		H	CO—CH(CH ₃) ₂	161
93	H	COC ₂ H ₅		H	COC ₂ H ₅	
94	H	COC ₂ H ₅		H	COC ₂ H ₅	
95	H	COC ₂ H ₅		H	COC ₂ H ₅	
96	H			H		
97	H			H		
98	H	COCH ₂ OCH ₃	95	H	COCH ₂ OCH ₃	129—130
99	H	CO—CH ₂ —OC ₂ H ₅		H	CO—CH ₂ —OC ₂ H ₅	119

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Table 8 (continuation)

Example No.	Starting material:		Compounds prepared according to the invention:					
	R	R'	m.p. (°C)	R	R'	R''	R'''	m.p. (°C)
100	H	CO—CH ₂ OC ₆ H ₅	109—110	H	COCH ₂ OC ₆ H ₅	COOCH ₃	COOCH ₃	144—146
101	4-CH ₃	COC ₃ H ₇	136	4-CH ₃	COC ₃ H ₇	COOCH ₃	COOCH ₃	171
102	3-CH ₃	COC ₃ H ₇		3-CH ₃	COC ₃ H ₇	COOCH ₃	COOCH ₃	
103	2-CH ₃	COC ₃ H ₇		2-CH ₃	COC ₃ H ₇	COOCH ₃	COOCH ₃	
104	4-Cl	COC ₃ H ₇		4-Cl	COC ₃ H ₇	COOCH ₃	COOCH ₃	
105	3-Cl	COC ₃ H ₇		3-Cl	COC ₃ H ₇	COOCH ₃	COOCH ₃	
106	2-Cl	COC ₃ H ₇	126	2-Cl	COC ₃ H ₇	COOCH ₃	COOCH ₃	144
107	4-NHCOCH ₃	COC ₃ H ₇		4-NHCOCH ₃	COC ₃ H ₇	COOCH ₃	COOCH ₃	
108	4-Br	COC ₃ H ₇	130	4-Br	COC ₃ H ₇	COOCH ₃	COOCH ₃	176
109	3,4-Cl ₂	COC ₃ H ₇		3,4-Cl ₂	COC ₃ H ₇	COOCH ₃	COOCH ₃	
110	4-C ₄ H ₉	COC ₃ H ₇		4-C ₄ H ₉	COC ₃ H ₇	COOCH ₃	COOCH ₃	
111	4-C ₂ H ₅	COC ₃ H ₇	98	4-C ₂ H ₅	COC ₃ H ₇	COOCH ₃	COOCH ₃	167
112	2,5-(OCH ₃) ₂	COC ₃ H ₇	146	2,5-(OCH ₃) ₂	COC ₃ H ₇	COOCH ₃	COOCH ₃	142
113	4-CH ₃	COC ₃ H ₇	122	4-CH ₃	COC ₃ H ₇	COOCH ₃	COC ₂ H ₅	110
114	4-Cl	CO—C ₃ H ₇	126	4-Cl	CO—C ₃ H ₇	COOCH ₃	COOCH ₃	176
115	4-Cl	CO—C ₃ H ₇		4-Cl	CO—C ₃ H ₇	COOCH ₃	COC ₂ H ₅	155

Table 8 (continuation)

Example No.	Starting material:		Compounds prepared according to the invention:				
	R	R'	m.p. (°C)	R	R'	R''	R''' m.p. (°C)
116	2-Cl	COC ₂ H ₅	155	2-Cl	COC ₂ H ₅	COOCH ₃	COOCH ₃ 154
117	2-Cl	COCH ₂ OCH ₃	166	2-Cl	COCH ₂ OCH ₃	COOCH ₃	COOCH ₃ 138
118	4-Br	COC ₂ H ₅	154	4-Br	COC ₂ H ₅	COOCH ₃	COOCH ₃ 158
119	3-CH ₃ ,4-Br	COC ₂ H ₅	143	3-CH ₃ ,4-Br	COC ₂ H ₅	COOCH ₃	COOCH ₃ 170
120	3-CH ₃ ,4-Br	COC ₂ H ₅		3-CH ₃ ,4-Br	COC ₂ H ₅	COOCH ₃	COOCH ₃
121	3-CH ₃ ,4-Br	COCH ₂ OCH ₃	119—120	3-CH ₃ ,4-Br	COCH ₂ OCH ₃	COOCH ₃	COOCH ₃ 141
122	4-C ₂ H ₅	COC ₂ H ₅	97	4-C ₂ H ₅	COC ₂ H ₅	COOCH ₃	COOCH ₃ 155
123	4-C ₂ H ₅	COCH ₂ OCH ₃	94	4-C ₂ H ₅	COCH ₂ OCH ₃	COOCH ₃	COOCH ₃ 126
124	3-CF ₃	COC ₂ H ₅		3-CF ₃	COC ₂ H ₅	COOCH ₃	COOCH ₃
125	3-CF ₃	COCH ₂ OCH ₃	64	3-CF ₃	COCH ₂ OCH ₃	COOCH ₃	COOCH ₃ 120
126	4-C ₂ H ₅	COCH ₂ OCH ₃		4-C ₂ H ₅	COCH ₂ OCH ₃	COOCH ₃	COOCH ₃
127	3-OCH ₃	COCH ₂ OCH ₃		3-OCH ₃	COCH ₂ OCH ₃	COOCH ₃	COOCH ₃
128	4-OCH ₃	COCH ₂ OCH ₃	63	4-OCH ₃	COCH ₂ OCH ₃	COOCH ₃	COOCH ₃ 131
129	2-OC ₂ H ₅	COC ₂ H ₅		2-OC ₂ H ₅	COC ₂ H ₅	COOCH ₃	COOCH ₃ 128
130	2-OC ₂ H ₅	COCH ₂ OCH ₃	133	2-OC ₂ H ₅	COCH ₂ OCH ₃	COOCH ₃	COOCH ₃ 110

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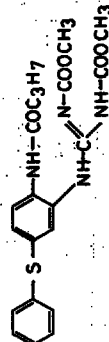
Table 8 (continuation)

Example No.	Starting material:		Compounds prepared according to the invention:				
	R	R'	R	R'	R''	R'''	m.p. (°C)
131	2-COOCH ₃	COC ₂ H ₅	2-COOCH ₃	COC ₂ H ₅	COOCH ₃	COOCH ₃	138
132	2-COOCH ₃	COC ₂ H ₅	2-COOCH ₃	COC ₂ H ₅	COOCH ₃	COOCH ₃	158
133	2-COOCH ₃	COCH ₂ OCH ₃	2-COOCH ₃	COCH ₂ OCH ₃	COOCH ₃	COOCH ₃	135
134	H	COCH ₂ OCH ₃	H	COCH ₂ OCH ₃	COOCH ₃	COOC ₂ H ₅	125—127
135	H	COCH ₂ OC ₆ H ₅	H	COCH ₂ OC ₆ H ₅	COOCH ₃	COC ₂ H ₅	138—140
136	H	COCH ₂ —O—C ₂ H ₅	H	COCH ₂ —O—C ₂ H ₅	COOCH ₃	CO—C ₂ H ₅	111
137	2,4-(CH ₃) ₂	COC ₂ H ₅	2,4-(CH ₃) ₂	COC ₂ H ₅	COOCH ₃	COOCH ₃	
138	3-OC ₂ H ₅	COC ₂ H ₅	3-OC ₂ H ₅	COC ₂ H ₅	COOCH ₃	COOCH ₃	
139	4-OCH ₃	COC ₂ H ₅	4-OCH ₃	COC ₂ H ₅	COOCH ₃	COOCH ₃	185
140	3-OCH ₃	COC ₂ H ₅	3-OCH ₃	COC ₂ H ₅	COOCH ₃	COOCH ₃	160
141	4-SCH ₃	COC ₂ H ₅	4-SCH ₃	COC ₂ H ₅	COOCH ₃	COOCH ₃	
142	2-OC ₂ H ₅	COC ₂ H ₅	2-OC ₂ H ₅	COC ₂ H ₅	COOCH ₃	COOCH ₃	
143	3-CH ₃ ,4-Br	COC ₂ H ₅	3-CH ₃ ,4-Br	COC ₂ H ₅	COOCH ₃	COOCH ₃	
144	3-CF ₃	COC ₂ H ₅	3-CF ₃	COC ₂ H ₅	COOCH ₃	COOCH ₃	
145	4-F	COCH ₂ OCH ₃	4-F	COCH ₂ OCH ₃	COOCH ₃	COOCH ₃	127
146	4-CH ₃ CO	COC ₂ H ₅	4-CH ₃ CO	COC ₂ H ₅	COOCH ₃	COOCH ₃	

Table 8 (continuation)

Example No.	Starting material:		Compounds prepared according to the invention:				
	R	R''	m.p. (°C)	R	R'	R''	m.p. (°C)
147	3-CH ₃ CO	COC ₂ H ₅		3-CH ₃ CO	COC ₂ H ₅	COOCH ₃	COOCH ₃
148	4-C ₃ H ₇ CO	COC ₂ H ₅		4-C ₃ H ₇ CO	COC ₂ H ₅	COOCH ₃	COOCH ₃
149	4-NHCOOCH ₃	COC ₂ H ₅		4-NHCOOCH ₃	COC ₂ H ₅	COOCH ₃	COOCH ₃
150	4-CN	COC ₂ H ₅		4-CN	COC ₂ H ₅	COOCH ₃	COOCH ₃
151	3-CN	COC ₂ H ₅		3-CN	COC ₂ H ₅	COOCH ₃	COOCH ₃
152	4-F	CO-C ₃ H ₇	121	4-F	CO-C ₃ H ₇	COOCH ₃	155
153	4-F	CO-C ₃ H ₇		4-F	CO-C ₃ H ₇	COOCH ₃	136—137
154	4-Br	CO-CH ₂ -O-CH ₃	143	4-Br	CO-CH ₂ -O-CH ₃	COOCH ₃	114
155	3-Cl	CO-C ₃ H ₇	142	3-Cl	CO-C ₃ H ₇	COOCH ₃	129
156	3-Cl	CO-CH ₂ -O-CH ₃	113	3-Cl	CO-CH ₂ -O-CH ₃	COOCH ₃	124
157	4-C(CH ₃) ₃	CO-C ₃ H ₇		4-C(CH ₃) ₃	CO-C ₃ H ₇	COOCH ₃	169

Example 158.



Using the method described in Example 3, 14.3 g (0.05 mol) of 2-amino-4-phenylthio-butylanilide and 10.3 g (0.05 mol) of N,N'-bis-methoxycarbonyl-isothiourea-S-methyl-ether give 14.5 g of N-(2-butyramido-5-phenylthio-phenyl)-N',N''-bis-methoxycarbonyl-guanidine of melting point 164—166°C.

Examples 159 to 208.

In these Examples, a series of reactions analogous to Example 158 was carried out using the N,N'-disubstituted isothiourea-S-methyl ethers and 2-amino-4-phenyl-thioanilides shown in Table 9. The resulting compounds are shown in Table 9.

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Table 9 (Examples 159 to 208)

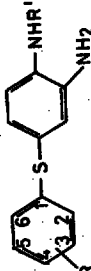
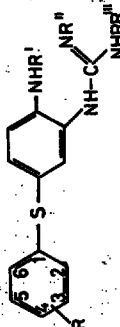
Example No.	Starting material:	Compounds prepared according to the invention:				
		R	R'	R''	R'''	m.p. (°C)
						
159	H COCH ₃	H	COCH ₃	COOCH ₃	COOCH ₃	
160	H COCH ₃	H	COCH ₃	COOCH ₃	COC ₂ H ₅	
161	H COCH ₃	H	COCH ₃	COOCH ₃	COOC ₂ H ₅	
162	H COC ₂ H ₅	H	COC ₂ H ₅	COOCH ₃	COOCH ₃	
163	H COC ₂ H ₅	H	COC ₂ H ₅	COOCH ₃	COC ₂ H ₅	
164	H COC ₂ H ₅	H	COC ₂ H ₅	COOCH ₃	COOC ₂ H ₅	
165	H COC ₃ H ₇	H	COC ₃ H ₇	COOCH ₃	COOC ₂ H ₅	
166	H COC ₃ H ₇	H	COC ₃ H ₇	COOCH ₃	COC ₂ H ₅	
167	H COC ₄ H ₉	H	COC ₄ H ₉	COOCH ₃	COOCH ₃	
168	H COC ₄ H _{9,iso}	H	COC ₄ H _{9,iso}	COOCH ₃	COOCH ₃	
169	H COOCH ₃	H	COOCH ₃	COOCH ₃	COOCH ₃	

Table 9 (continuation)

Example No.	Starting material:		Compounds prepared according to the invention:			
	R	R'	m.p. (°C)	R	R'	R'' R''' m.p. (°C)
170	H	COOC ₂ H ₅		H	COOC ₂ H ₅	COOCH ₃
171	H	COC ₃ H ₁₁		H	COC ₃ H ₁₁	COOCH ₃
172	H	COC ₆ H ₁₃		H	COC ₆ H ₁₃	COOCH ₃
173	H	COC ₂ H ₅		H	COC ₂ H ₅	COOCH ₂ -CH=CH ₂
174	H	COC ₂ H ₅		H	COC ₂ H ₅	COOCH ₂ -C≡CH
175	H	COC ₂ H ₅		H	COC ₂ H ₅	COOCH-C(CH ₃)=CH ₂
176	H	COC ₂ H ₅		H	COC ₂ H ₅	COOCH ₂ -CH=CH ₂
177	H			H		COOCH ₃
178	H			H		COOCH ₃
179	H	COCH ₂ OCH ₃		H	COCH ₂ OCH ₃	COOCH ₃
180	H	CO-CH ₂ OC ₆ H ₅		H	COCH ₂ OC ₆ H ₅	COOCH ₃
181	4-CH ₃	COC ₃ H ₇		4-CH ₃	COC ₃ H ₇	COOCH ₃

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Table 9 (continuation)

Example No.	Starting material:		Compounds prepared according to the invention:				
	R	R'	m.p. (°C)	R	R'	R''	R'''
182	3-CH ₃	COC ₃ H ₇		3-CH ₃	COC ₃ H ₇	COOCH ₃	COOCH ₃
183	2-CH ₃	COC ₃ H ₇		2-CH ₃	COC ₃ H ₇	COOCH ₃	COOCH ₃
184	4-Cl	COC ₂ H ₅		4-Cl	COC ₂ H ₅	COOCH ₃	COOCH ₃
185	3-Cl	COC ₂ H ₅		3-Cl	COC ₂ H ₅	COOCH ₃	COOCH ₃
186	2-Cl	COC ₂ H ₅		2-Cl	COC ₂ H ₅	COOCH ₃	COOCH ₃
187	4-NHCOCH ₃	COC ₂ H ₅		4-NHCOCH ₃	COC ₂ H ₅	COOCH ₃	COOCH ₃
188	4-Br	COC ₃ H ₇		4-Br	COC ₃ H ₇	COOCH ₃	COOCH ₃
189	3,4-Cl ₂	COC ₃ H ₇		3,4-Cl ₂	COC ₃ H ₇	COOCH ₃	COOCH ₃
190	4-C ₄ H ₉	COC ₃ H ₇		4-C ₄ H ₉	COC ₃ H ₇	COOCH ₃	COOCH ₃
191	4-C ₂ H ₅	COC ₃ H ₇		4-C ₂ H ₅	COC ₃ H ₇	COOCH ₃	COOCH ₃
192	3,5-(CH ₃) ₂	COC ₃ H ₇		3,5-(CH ₃) ₂	COC ₃ H ₇	COOCH ₃	COOCH ₃
193	2,4-(CH ₃) ₂	COC ₃ H ₇		2,4-(CH ₃) ₂	COC ₃ H ₇	COOCH ₃	COOCH ₃

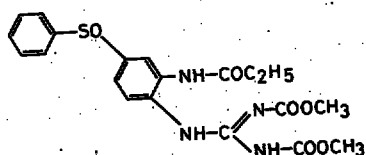
(62)

Table 9 (continuation)

Example No.	Starting material:		Compounds prepared according to the invention:					
	R	R'	F(°C)	R	R'	R''	R'''	Fp(°C)
194	3-OC ₂ H ₅	COC ₂ H ₅		3-OC ₂ H ₅	COC ₂ H ₅	COOCH ₃	COOCH ₃	
195	4-OCH ₃	COC ₂ H ₅		4-OCH ₃	COC ₂ H ₅	COOCH ₃	COOCH ₃	
196	3-OCH ₃	COC ₂ H ₅		3-OCH ₃	COC ₂ H ₅	COOCH ₃	COOCH ₃	
197	4-SCH ₃	COC ₂ H ₅		4-SCH ₃	COC ₂ H ₅	COOCH ₃	COOCH ₃	
198	2-OC ₂ H ₅	COC ₂ H ₅		2-OC ₂ H ₅	COC ₂ H ₅	COOCH ₃	COOCH ₃	
199	3-CH ₃ ,			3-CH ₃ ,				
200	4-Br	COC ₂ H ₅		4-Br	COC ₂ H ₅	COOCH ₃	COOCH ₃	
201	3-CF ₃	COC ₂ H ₅		3-CF ₃	COC ₂ H ₅	COOCH ₃	COOCH ₃	
202	4-F	COC ₂ H ₅		4-F	COC ₂ H ₅	COOCH ₃	COOCH ₃	
203	4-CH ₃ CO	COC ₂ H ₅		4-CH ₃ CO	COC ₂ H ₅	COOCH ₃	COOCH ₃	
204	3-CH ₃ CO	COC ₂ H ₅		3-CH ₃ CO	COC ₂ H ₅	COOCH ₃	COOCH ₃	
205	4-C ₃ H ₇ CO	COC ₂ H ₅		4-C ₃ H ₇ CO	COC ₂ H ₅	COOCH ₃	COOCH ₃	
206	4-NHCOOCH ₃	COC ₂ H ₅		4-NHCOOCH ₃	COC ₂ H ₅	COOCH ₃	COOCH ₃	
207	4-CN	COC ₂ H ₅		4-CN	COC ₂ H ₅	COOCH ₃	COOCH ₃	
208	3-CN	COC ₂ H ₅		3-CN	COC ₂ H ₅	COOCH ₃	COOCH ₃	

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Example 209.



Using the method described in Example 3, 14.2 g (0.05 mol) of 2-amino-5-phenylsulphinyl-propionanilide and 10.3 g (0.05 mol) of N,N'-bis-methoxycarbonyl-isothiurea-S-methylether give 12.7 g of N-(2-propionamido-4-phenylsulphinyl-phenyl)-N',N''-bis-methoxycarbonyl-guanidine of melting point 193—195°C.

Examples 210 to 258.

In these Examples, a series of reactions analogous to Example 209 was carried out using the N,N'-disubstituted isothiurea-S-methyl-ethers and 2-amino-5-phenylsulphinyl-anilides shown in Table 10. The resulting compounds are described in Table 10.

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Table 10 (Examples 210 to 258)

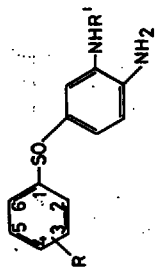
Example No.	Starting material	Compounds prepared according to the invention:				
		R	R'	R''	R'''	m.p.(°C)
						
		R	R'	R''	R'''	m.p.(°C)
210	H	COCH ₃	COCH ₃	COOCH ₃	COOCH ₃	
211	H	COCH ₃	COCH ₃	COOCH ₃	COC ₂ H ₅	
212	H	COCH ₃	COCH ₃	COOCH ₃	COOC ₂ H ₅	
213	H	COC ₃ H ₇	COC ₃ H ₇	COOCH ₃	COOCH ₃	186
214	H	COC ₂ H ₅	COC ₂ H ₅	COOCH ₃	COC ₂ H ₅	
215	H	COC ₂ H ₅	COC ₂ H ₅	COOCH ₃	COOC ₂ H ₅	
216	H	COC ₃ H ₇	COC ₃ H ₇	COOCH ₃	COOC ₂ H ₅	
217	H	COC ₃ H ₇	COC ₃ H ₇	COOCH ₃	COC ₂ H ₅	
218	H	COC ₄ H ₉	COC ₄ H ₉	COOCH ₃	COOCH ₃	
219	H	COC ₄ H ₉ iso	COC ₄ H ₉ iso	COOCH ₃	COOCH ₃	

Table 10 (continuation)

Example No.	Starting material:		Compounds prepared according to the invention:				
	R	R'	R	R'	R''	R'''	m.p. (°C)
220	H	COOCH ₃	H	COOCH ₃	COOCH ₃	COOCH ₃	
221	H	COOC ₂ H ₅	H	COOC ₂ H ₅	COOCH ₃	COOCH ₃	
222	H	COC ₃ H ₇	H	COC ₃ H ₇	COOCH ₃	COOCH ₃	
223	H	COC ₄ H ₉	H	COC ₄ H ₉	COOCH ₃	COOCH ₃	
224	H	COC ₂ H ₅	H	COC ₂ H ₅	COOCH ₃	COOCH ₃ -CH=CH ₂	
225	H	COC ₃ H ₇	H	COC ₃ H ₇	COOCH ₃	COOCH ₃ -C≡CH	
226	H	COC ₂ H ₅	H	COC ₂ H ₅	COOCH ₃	COOCH ₃ -C(CH ₃)=CH ₂	
227	H	COC ₂ H ₅	H	COC ₂ H ₅	COOCH-CH=CH ₂	COOCH ₃ -CH=CH ₂	
228	H		H		COOCH ₃	COOCH ₃	
229	H		H		COOCH ₃	COOCH ₃	
230	H	COCH ₂ OC ₂ H ₅	H	COCH ₂ OC ₂ H ₅	COOCH ₃	COOCH ₃	135-136
231	H	CO-CH ₂ OC ₂ H ₅	H	COCH ₂ OC ₂ H ₅	COOCH ₃	COOCH ₃	
232	4-CH ₃	COC ₃ H ₇	4-CH ₃	COC ₃ H ₇	COOCH ₃	COOCH ₃	
233	3-CH ₃	COC ₃ H ₇	3-CH ₃	COC ₃ H ₇	COOCH ₃	COOCH ₃	
234	2-CH ₃	COC ₃ H ₇	2-CH ₃	COC ₃ H ₇	COOCH ₃	COOCH ₃	
235	4-Cl	COC ₂ H ₅	4-Cl	COC ₂ H ₅	COOCH ₃	COOCH ₃	
236	3-Cl	COC ₂ H ₅	3-Cl	COC ₂ H ₅	COOCH ₃	COOCH ₃	
237	2-Cl	COC ₂ H ₅	2-Cl	COC ₂ H ₅	COOCH ₃	COOCH ₃	

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Table 10 (continuation)

Example No.	Starting material:		Compounds prepared according to the invention:				
	R	R'	m.p. (°C)	R	R'	R''	m.p. (°C)
238	4-NHCOCH ₃	COC ₂ H ₅		4-NHCOCH ₃	COC ₂ H ₅	COOCH ₃	COOCH ₃
239	4-Br	COC ₃ H ₇		4-Br	COC ₃ H ₇	COOCH ₃	COOCH ₃
240	3,4-Cl ₂	COC ₃ H ₇		3,4-Cl ₂	COC ₃ H ₇	COOCH ₃	COOCH ₃
241	4-C ₄ H ₉	COC ₃ H ₇		4-C ₄ H ₉	COC ₃ H ₇	COOCH ₃	COOCH ₃
242	4-C ₂ H ₅	COC ₃ H ₇		4-C ₂ H ₅	COC ₃ H ₇	COOCH ₃	COOCH ₃
243	3,5-(CH ₃) ₂	COC ₃ H ₇		3,5-(CH ₃) ₂	COC ₃ H ₇	COOCH ₃	COOCH ₃
244	2,4-(CH ₃) ₂	COC ₃ H ₇		2,4-(CH ₃) ₂	COC ₃ H ₇	COOCH ₃	COOCH ₃
245	3-OC ₂ H ₅	COC ₃ H ₇		3-OC ₂ H ₅	COC ₃ H ₇	COOCH ₃	COOCH ₃
246	4-OCH ₃	COC ₃ H ₇		4-OCH ₃	COC ₃ H ₇	COOCH ₃	COOCH ₃
247	3-OCH ₃	COC ₃ H ₇		3-OCH ₃	COC ₃ H ₇	COOCH ₃	COOCH ₃
248	2-OC ₂ H ₅	COC ₂ H ₅		2-OC ₂ H ₅	COC ₂ H ₅	COOCH ₃	COOCH ₃
249	3-CH ₃ ,	COC ₂ H ₅		3-CH ₃ ,	COC ₂ H ₅	COOCH ₃	COOCH ₃
250	4-Br			4-Br			
251	3-CF ₃	COC ₂ H ₅		3-CF ₃	COC ₂ H ₅	COOCH ₃	COOCH ₃
252	4-F	COC ₂ H ₅		4-F	COC ₂ H ₅	COOCH ₃	COOCH ₃
253	4-CH ₃ CO	COC ₂ H ₅		4-CH ₃ CO	COC ₂ H ₅	COOCH ₃	COOCH ₃
254	3-CH ₃ CO	COC ₂ H ₅		3-CH ₃ CO	COC ₂ H ₅	COOCH ₃	COOCH ₃
255	4-C ₃ H ₇ CO	COC ₂ H ₅		4-C ₃ H ₇ CO	COC ₂ H ₅	COOCH ₃	COOCH ₃
256	4-NHCOOCH ₃	COC ₂ H ₅		4-NHCOOCH ₃	COC ₂ H ₅	COOCH ₃	COOCH ₃
257	4-CN	COC ₂ H ₅		4-CN	COC ₂ H ₅	COOCH ₃	COOCH ₃
258	3-CN	COC ₂ H ₅		3-CN	COC ₂ H ₅	COOCH ₃	COOCH ₃

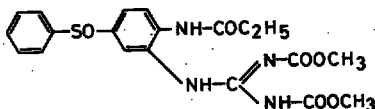
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Example 259.

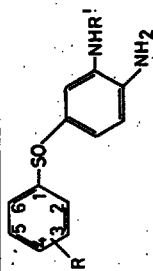


Using the method described in Example 3, 14.2 g (0.05 mol) of 2-amino-4-phenylsulphinyl-propionanilide and 10.3 g (0.05 mol) of N,N'-bis-methoxycarbonyl-isothiourea-S-methylether give 12.7 g of N-(2-propionamido-5-phenylsulphinyl-phenyl)-N',N''-bis-methoxycarbonyl-guanidine.

Examples 260 to 309.

In these Examples, a series of reactions analogous to Example 259 was carried out using the N,N'-disubstituted isothiourea-S-methyl-ethers and 2-amino-4-phenyl-sulphinyl-anilides shown in Table II. The resulting compounds are described in Table II.

Table 11 (Examples 260 to 309)

Example No.	Starting material	Compounds prepared according to the invention:						
		R	R'	R''	R'''	m.p.(°C)		
260	H	COCH ₃	H	COCH ₃	COOCH ₃	COOCH ₃		
261	H	COCH ₃	H	COCH ₃	COOCH ₃	COC ₂ H ₅		
262	H	COCH ₃	H	COCH ₃	COOCH ₃	COOC ₂ H ₅		
263	H	COC ₃ H ₇	H	COC ₃ H ₇	COOCH ₃	COOCH ₃		
264	H	COC ₂ H ₅	H	COC ₂ H ₅	COOCH ₃	COC ₂ H ₅		
265	H	COC ₂ H ₅	H	COC ₂ H ₅	COOCH ₃	COOC ₂ H ₅		
266	H	COC ₃ H ₇	H	COC ₃ H ₇	COOCH ₃	COOC ₂ H ₅		
267	H	COC ₃ H ₇	H	COC ₃ H ₇	COOCH ₃	COC ₂ H ₅		
268	H	COC ₄ H ₉	H	COC ₄ H ₉	COOCH ₃	COOCH ₃		
269	H	COC ₄ H ₉ iso	H	COC ₄ H ₉ iso	COOCH ₃	COOCH ₃		
270	H	COCH ₃	H	COCH ₃	COOCH ₃	COOCH ₃		
271	H	COOC ₂ H ₅	H	COOC ₂ H ₅	COOCH ₃	COOCH ₃		
272	H	COC ₃ H ₇	H	COC ₃ H ₇	COOCH ₃	COOCH ₃		
273	H	COC ₆ H ₁₃	H	COC ₆ H ₁₃	COOCH ₃	COOCH ₃		
274	H	COC ₂ H ₅	H	COC ₂ H ₅	COOCH ₃	COOCH ₂ -CH=CH ₂		

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Table 11 (continuation)

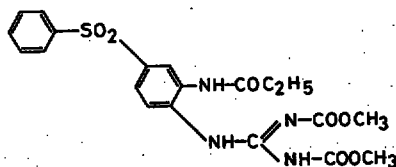
Example No.	Starting material:		Compounds prepared according to the invention:				
	R	R'	R	R'	R''	R'''	m.p. (°C)
275	H	COC ₂ H ₅	H	COC ₂ H ₅	COOCH ₃	COOCH ₂ -C≡CH	
276	H	COC ₂ H ₅	H	COC ₂ H ₅	COOCH ₃	COOCH ₂ -C(CH ₃)=CH ₂	
277	H	COC ₂ H ₅	H	COC ₂ H ₅	COOCH ₂ -CH=CH ₂	COOCH ₂ -CH=CH ₂	
278	H		H		COOCH ₃	COOCH ₃	
279	H		H		COOCH ₃	COOCH ₃	
280	H	COCH ₂ OCH ₃	H	COCH ₂ OCH ₃	COOCH ₃	COOCH ₃	
281	H	CO-CH ₂ OC ₆ H ₅	H	CO-CH ₂ OC ₆ H ₅	COOCH ₃	COOCH ₃	
282	4-CH ₃	COC ₃ H ₇	4-CH ₃	COC ₃ H ₇	COOCH ₃	COOCH ₃	
283	3-CH ₃	COC ₃ H ₇	3-CH ₃	COC ₃ H ₇	COOCH ₃	COOCH ₃	
284	2-CH ₃	COC ₃ H ₇	2-CH ₃	COC ₃ H ₇	COOCH ₃	COOCH ₃	
285	4-Cl	COC ₂ H ₅	4-Cl	COC ₂ H ₅	COOCH ₃	COOCH ₃	
286	3-Cl	COC ₂ H ₅	3-Cl	COC ₂ H ₅	COOCH ₃	COOCH ₃	
287	2-Cl	COC ₂ H ₅	2-Cl	COC ₂ H ₅	COOCH ₃	COOCH ₃	
288	4-NHCOCH ₃	COC ₂ H ₅	4-NHCOCH ₃	COC ₂ H ₅	COOCH ₃	COOCH ₃	
289	4-Br	COC ₃ H ₇	4-Br	COC ₃ H ₇	COOCH ₃	COOCH ₃	
290	3,4-Cl ₂	COC ₃ H ₇	3,4-Cl ₂	COC ₃ H ₇	COOCH ₃	COOCH ₃	
291	4-C ₄ H ₉	COC ₃ H ₇	4-C ₄ H ₉	COC ₃ H ₇	COOCH ₃	COOCH ₃	
292	4-C ₂ H ₅	COC ₃ H ₇	4-C ₂ H ₅	COC ₃ H ₇	COOCH ₃	COOCH ₃	

Table 11 (continuation)

Example No.	Starting material:		Compounds prepared according to the invention:			
	R	R'	R	R'	R''	R''' m.p. (°C)
293	3,5-(CH ₃) ₂	COC ₂ H ₅	3,5-(CH ₃) ₂	COC ₂ H ₅	COOCH ₃	COOCH ₃
294	2,4-(CH ₃) ₂	COC ₂ H ₅	2,4-(CH ₃) ₂	COC ₂ H ₅	COOCH ₃	COOCH ₃
295	3-OC ₂ H ₅	COC ₂ H ₅	3-OC ₂ H ₅	COC ₂ H ₅	COOCH ₃	COOCH ₃
296	4-OC ₂ H ₅	COC ₂ H ₅	4-OC ₂ H ₅	COC ₂ H ₅	COOCH ₃	COOCH ₃
297	3-OC ₂ H ₅	COC ₂ H ₅	3-OC ₂ H ₅	COC ₂ H ₅	COOCH ₃	COOCH ₃
298	4-SCH ₃	COC ₂ H ₅	4-SCH ₃	COC ₂ H ₅	COOCH ₃	COOCH ₃
299	2-OC ₂ H ₅	COC ₂ H ₅	2-OC ₂ H ₅	COC ₂ H ₅	COOCH ₃	COOCH ₃
300	3-CH ₃	COC ₂ H ₅	3-CH ₃	COC ₂ H ₅	COOCH ₃	COOCH ₃
301	4-Br	COC ₂ H ₅	4-Br	COC ₂ H ₅	COOCH ₃	COOCH ₃
302	3-CF ₃	COC ₂ H ₅	3-CF ₃	COC ₂ H ₅	COOCH ₃	COOCH ₃
303	4-F	COC ₂ H ₅	4-F	COC ₂ H ₅	COOCH ₃	COOCH ₃
304	4-CH ₃ CO	COC ₂ H ₅	4-CH ₃ CO	COC ₂ H ₅	COOCH ₃	COOCH ₃
305	3-CH ₃ CO	COC ₂ H ₅	3-CH ₃ CO	COC ₂ H ₅	COOCH ₃	COOCH ₃
306	4-C ₃ H ₇ CO	COC ₂ H ₅	4-C ₃ H ₇ CO	COC ₂ H ₅	COOCH ₃	COOCH ₃
307	4-NHCOOCH ₃	COC ₂ H ₅	4-NHCOOCH ₃	COC ₂ H ₅	COOCH ₃	COOCH ₃
308	4-CN	COC ₂ H ₅	4-CN	COC ₂ H ₅	COOCH ₃	COOCH ₃
309	3-CN	COC ₂ H ₅	3-CN	COC ₂ H ₅	COOCH ₃	COOCH ₃

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Example 310.



Using the method described in Example 3, 14.4 g (0.05 mol) of 2-amino-5-phenylsulphonyl-propionanilide of melting point 137°C and 10.3 g (0.05 mol) of N,N'-bis-methoxycarbonyl-isothiourea-S-methyl-ether give 12.7 g of N-(2-propionamido-4-phenylsulphonyl-phenyl)-N',N''-bis-methoxycarbonyl-guanidine of melting point 197°C.

Examples 311 to 359.

In these Examples, a series of reactions analogous to Example 310 was carried out using the N,N'-disubstituted isothiourea-S-methyl-ethers and 2-amino-5-phenyl-sulphonyl-anilides shown in Table 12. The resulting compounds are described in Table 12.

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Table 12 (Examples 311 to 359)

Example No.	Starting material:	Compounds prepared according to the invention				
		R	R'	R''	R'''	m.p. (°C)

311	H	COCH ₃	COCH ₃	COOCH ₃	COOCH ₃	
312	H	COCH ₃	COCH ₃	COOCH ₃	COC ₂ H ₅	
313	H	COCH ₃	COCH ₃	COOCH ₃	COOC ₂ H ₅	
314	H	COC ₂ H ₅	COC ₂ H ₅	COOCH ₃	COOCH ₃	180
315	H	COC ₂ H ₅	COC ₂ H ₅	COOCH ₃	COC ₂ H ₅	
316	H	COC ₂ H ₅	COC ₂ H ₅	COOCH ₃	COOC ₂ H ₅	
317	H	COC ₂ H ₅	COC ₂ H ₅	COOCH ₃	COOC ₂ H ₅	
318	H	COC ₂ H ₅	COC ₂ H ₅	COOCH ₃	COC ₂ H ₅	
319	H	COC ₄ H ₉	COC ₄ H ₉	COOCH ₃	COOCH ₃	
320	H	COC ₄ H _{9,iso}	COC ₄ H _{9,iso}	COOCH ₃	COOCH ₃	
321	H	COOCH ₃	COOCH ₃	COOCH ₃	COOCH ₃	
322	H	COOC ₂ H ₅	COOC ₂ H ₅	COOCH ₃	COOCH ₃	
323	H	COC ₃ H ₇	COC ₃ H ₇	COOCH ₃	COOCH ₃	

Table 12 (continuation)

Example No.	Starting material:		Compounds prepared according to the invention:				
	R	R'	m.p. (°C)	R	R'	R''	m.p. (°C)
324	H	COC ₆ H ₁₃		H	COC ₆ H ₁₃	COOCH ₃	COOCH ₃
325	H	COC ₂ H ₅		H	COC ₂ H ₅	COOCH ₃	COOCH ₂ -CH=CH ₂
326	H	COC ₂ H ₅		H	COC ₂ H ₅	COOCH ₃	COOCH ₂ -C≡CH
327	H	COC ₂ H ₅		H	COC ₂ H ₅	COOCH ₃	COOCH-C(CH ₃)=CH ₂
328	H	COC ₂ H ₅		H	COC ₂ H ₅	COOCH ₂ -CH=CH ₂	COOCH ₂ -CH=CH ₂
329	H			H		COOCH ₃	COOCH ₃
330	H			H		COOCH ₃	COOCH ₃
331	H	COCH ₂ OCH ₃		H	COCH ₂ OCH ₃	COOCH ₃	COOCH ₃ 142
332	H	CO-CH ₂ OC ₆ H ₅		H	COCH ₂ OC ₆ H ₅	COOCH ₃	COOCH ₃
333	4-CH ₃	COC ₃ H ₇		4-CH ₃	COC ₃ H ₇	COOCH ₃	COOCH ₃
334	3-CH ₃	COC ₃ H ₇		3-CH ₃	COC ₃ H ₇	COOCH ₃	COOCH ₃
335	2-CH ₃	COC ₃ H ₇		2-CH ₃	COC ₃ H ₇	COOCH ₃	COOCH ₃
336	4-Cl	COC ₂ H ₅		4-Cl	COC ₂ H ₅	COOCH ₃	COOCH ₃
337	3-Cl	COC ₂ H ₅		3-Cl	COC ₂ H ₅	COOCH ₃	COOCH ₃
338	2-Cl	COC ₂ H ₅		2-Cl	COC ₂ H ₅	COOCH ₃	COOCH ₃
339	4-NHCOCH ₃	COC ₂ H ₅		4-NHCOCH ₃	COC ₂ H ₅	COOCH ₃	COOCH ₃
340	4-Br	COC ₂ H ₅		4-Br	COC ₂ H ₅	COOCH ₃	COOCH ₃
341	3,4-Cl ₂	COC ₂ H ₅		3,4-Cl ₂	COC ₂ H ₅	COOCH ₃	COOCH ₃

Table 12 (continuation)

Example No.	Starting material:		Compounds prepared according to the invention:				
	R	R'	m.p. (°C)	R	R'	R''	R''' m.p. (°C)
342	4-C ₄ H ₉	COC ₂ H ₅		4-C ₄ H ₉	COC ₂ H ₅	COOCH ₃	COOCH ₃
343	4-C ₂ H ₅	COC ₂ H ₅		4-C ₂ H ₅	COC ₂ H ₅	COOCH ₃	COOCH ₃
344	3,5-(CH ₃) ₂	COC ₂ H ₅		3,5-(CH ₃) ₂	COC ₂ H ₅	COOCH ₃	COOCH ₃
345	2,4-(CH ₃) ₂	COC ₂ H ₅		2,4-(CH ₃) ₂	COC ₂ H ₅	COOCH ₃	COOCH ₃
346	3-OC ₂ H ₅	COC ₂ H ₅		3-OC ₂ H ₅	COC ₂ H ₅	COOCH ₃	COOCH ₃
347	4-OCH ₃	COC ₂ H ₅		4-OCH ₃	COC ₂ H ₅	COOCH ₃	COOCH ₃
348	3-OCH ₃	COC ₂ H ₅		3-OCH ₃	COC ₂ H ₅	COOCH ₃	COOCH ₃
349	2-OC ₂ H ₅	COC ₂ H ₅		2-OC ₂ H ₅	COC ₂ H ₅	COOCH ₃	COOCH ₃
350	3-CH ₃			3-CH ₃			
351	4-Br	COC ₂ H ₅		4-Br	COC ₂ H ₅	COOCH ₃	COOCH ₃
352	3-CF ₃	COC ₂ H ₅		3-CF ₃	COC ₂ H ₅	COOCH ₃	COOCH ₃
353	4-F	COC ₂ H ₅		4-F	COC ₂ H ₅	COOCH ₃	COOCH ₃
354	4-CH ₃ CO	COC ₂ H ₅		4-CH ₃ CO	COC ₂ H ₅	COOCH ₃	COOCH ₃
355	3-CH ₃ CO	COC ₂ H ₅		3-CH ₃ CO	COC ₂ H ₅	COOCH ₃	COOCH ₃
356	4-C ₂ H ₅ CO	COC ₂ H ₅		4-C ₂ H ₅ CO	COC ₂ H ₅	COOCH ₃	COOCH ₃
357	4-NHCOOCH ₃	COC ₂ H ₅		4-NHCOOCH ₃	COC ₂ H ₅	COOCH ₃	COOCH ₃
358	4-CN	COC ₂ H ₅		4-CN	COC ₂ H ₅	COOCH ₃	COOCH ₃
359	3-CN	COC ₂ H ₅		3-CN	COC ₂ H ₅	COOCH ₃	COOCH ₃

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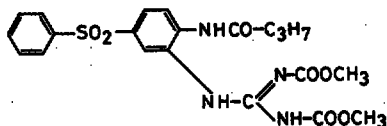
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Example 360.



5 14.4 g (0.05 mol) of 2 - amino - 4 - phenylsulphonyl - butyranilide (melting point 143—145) in 100 ml of methanol are heated with 10.3 g (0.05 mol) of N,N'-bis - methoxycarbonyl - isothiurea - S - methyl - ether, with addition of 1 g of p - toluene - sulphonic acid, for 3 hours. After working up analogously to Example 3, 15.8 g of N - (2 - butyramido - 5 - phenylsulphonyl - phenyl) - N',N'' - bis-methoxycarbonyl - guanidine of melting point 173°C are obtained.

Examples 361 to 409.

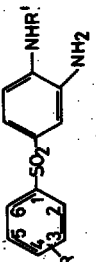
10 In these Examples a series of reactions analogously to Example 360 was carried out using the N,N' - disubstituted isothiurea - S - methyl - ethers and 2 - amino - 5 - phenyl - sulphonyl - anilides shown in Table 13. The resulting compounds are described in Table 13.

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Table 13 (Examples 361 to 409)

Example No.	Starting material:	Compounds prepared according to the invention:							
									
		R	R'	m.p. (°C)	R	R'	R''	R'''	m.p. (°C)
361	H	COCH ₃	H		COCH ₃	COOCH ₃	COOCH ₃	COOCH ₃	
362	H	COCH ₃	H		COCH ₃	COOCH ₃	COOCH ₃	COC ₂ H ₅	
363	H	COCH ₃	H		COCH ₃	COOCH ₃	COOCH ₃	COOC ₂ H ₅	
364	H	COC ₂ H ₅	H		COC ₂ H ₅	COOCH ₃	COOCH ₃	COOCH ₃	
365	H	COC ₂ H ₅	H		COC ₂ H ₅	COOCH ₃	COOCH ₃	COC ₂ H ₅	
366	H	COC ₂ H ₅	H		COC ₂ H ₅	COOCH ₃	COOCH ₃	COOC ₂ H ₅	
367	H	COC ₃ H ₇	H		COC ₃ H ₇	COOCH ₃	COOCH ₃	COOC ₂ H ₅	
368	H	COC ₃ H ₇	H		COC ₃ H ₇	COOCH ₃	COOCH ₃	COC ₂ H ₅	
369	H	COC ₄ H ₉	H		COC ₄ H ₉	COOCH ₃	COOCH ₃	COOCH ₃	
370	H	COC ₄ H ₉ , iso	H		COC ₄ H ₉ , iso	COOCH ₃	COOCH ₃	COOCH ₃	
371	H	COOCH ₃	H		COOCH ₃	COOCH ₃	COOCH ₃	COOCH ₃	
372	H	COOC ₂ H ₅	H		COOC ₂ H ₅	COOCH ₃	COOCH ₃	COOCH ₃	
373	H	COC ₃ H ₁₁	H		COC ₃ H ₁₁	COOCH ₃	COOCH ₃	COOCH ₃	
374	H	COC ₆ H ₁₃	H		COC ₆ H ₁₃	COOCH ₃	COOCH ₃	COOCH ₃	

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Table 13 (continuation)

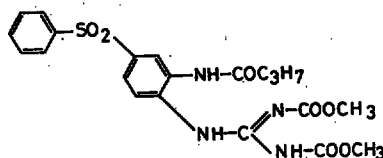
Example No.	Starting material:		Compounds prepared according to the invention:					
	R	R'	m.p. (°C)	R	R'	R''	R'''	m.p. (°C)
375	H	COC ₂ H ₅		H	COC ₂ H ₅	COOCH ₃	COOCH ₂ -CH=CH ₂	
376	H	COC ₂ H ₅		H	COC ₂ H ₅	COOCH ₃	COOCH ₂ -C≡CH	
377	H	COC ₂ H ₅		H	COC ₂ H ₅	COOCH ₃	COOCH ₂ -C(CH ₃)=CH ₂	
378	H	COC ₂ H ₅		H	COC ₂ H ₅	COOCH ₃	COOCH ₂ -CH=CH ₂	
379	H			H		COOCH ₃	COOCH ₃	
380	H			H		COOCH ₃	COOCH ₃	
381	H	COCH ₂ OCH ₃		H	COCH ₂ OCH ₃	COOCH ₃	COOCH ₃	
382	H	CO-CH ₂ OC ₆ H ₅		H	CO-CH ₂ OC ₆ H ₅	COOCH ₃	COOCH ₃	
383	4-CH ₃	COC ₃ H ₇		4-CH ₃	COC ₃ H ₇	COOCH ₃	COOCH ₃	
384	3-CH ₃	COC ₃ H ₇		3-CH ₃	COC ₃ H ₇	COOCH ₃	COOCH ₃	
385	2-CH ₃	COC ₃ H ₇		2-CH ₃	COC ₃ H ₇	COOCH ₃	COOCH ₃	
386	4-Cl	COC ₂ H ₅		4-Cl	COC ₂ H ₅	COOCH ₃	COOCH ₃	
387	3-Cl	COC ₂ H ₅		3-Cl	COC ₂ H ₅	COOCH ₃	COOCH ₃	
388	2-Cl	COC ₂ H ₅		2-Cl	COC ₂ H ₅	COOCH ₃	COOCH ₃	
389	4-NHCOCH ₃	COC ₂ H ₅		4-NHCOCH ₃	COC ₂ H ₅	COOCH ₃	COOCH ₃	
390	4-Br	COC ₃ H ₇		4-Br	COC ₃ H ₇	COOCH ₃	COOCH ₃	
391	3,4-Cl ₂	COC ₃ H ₇		3,4-Cl ₂	COC ₃ H ₇	COOCH ₃	COOCH ₃	

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Table 13 (continuation)

Example No.	Starting material:		Compounds prepared according to the invention:			
	R	R'	m.p. (°C)	R	R'	m.p. (°C)
392	4-C ₄ H ₉	COC ₂ H ₅		4-C ₄ H ₉	COC ₂ H ₅	COOCH ₃
393	4-C ₂ H ₅	COC ₂ H ₅		4-C ₂ H ₅	COC ₂ H ₅	COOCH ₃
394	3,5-(CH ₃) ₂	COC ₂ H ₅		3,5-(CH ₃) ₂	COC ₂ H ₅	COOCH ₃
395	2,4-(CH ₃) ₂	COC ₂ H ₅		2,4-(CH ₃) ₂	COC ₂ H ₅	COOCH ₃
396	3-OC ₂ H ₅	COC ₂ H ₅		3-OC ₂ H ₅	COC ₂ H ₅	COOCH ₃
397	4-OCH ₃	COC ₂ H ₅		4-OCH ₃	COC ₂ H ₅	COOCH ₃
398	3-OCH ₃	COC ₂ H ₅		3-OCH ₃	COC ₂ H ₅	COOCH ₃
399	4-SCH ₃	COC ₂ H ₅		4-SCH ₃	COC ₂ H ₅	COOCH ₃
400	2-OC ₂ H ₅	COC ₂ H ₅		2-OC ₂ H ₅	COC ₂ H ₅	COOCH ₃
401	3-CH ₃ ,4-Br	COC ₂ H ₅		3-CH ₃ ,4-Br	COC ₂ H ₅	COOCH ₃
402	3-CF ₃	COC ₂ H ₅		3-CF ₃	COC ₂ H ₅	COOCH ₃
403	4-F	COC ₂ H ₅		4-F	COC ₂ H ₅	COOCH ₃
404	4-CH ₃ CO	COC ₂ H ₅		4-CH ₃ CO	COC ₂ H ₅	COOCH ₃
405	3-CH ₃ CO	COC ₂ H ₅		3-CH ₃ CO	COC ₂ H ₅	COOCH ₃
406	4-C ₂ H ₅ CO	COC ₂ H ₅		4-C ₂ H ₅ CO	COC ₂ H ₅	COOCH ₃
407	4-NHCOOCH ₃	COC ₂ H ₅		4-NHCOOCH ₃	COC ₂ H ₅	COOCH ₃
408	4-CN	COC ₂ H ₅		4-CN	COC ₂ H ₅	COOCH ₃
409	3-CN	COC ₂ H ₅		3-CN	COC ₂ H ₅	COOCH ₃

Example 410.

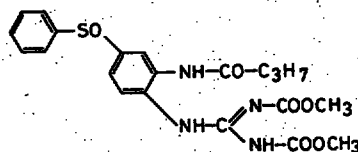


2.3 ml of H_2O_2 (30%) are added dropwise to a solution of 8.9 g of N - (2-butyramido - 4 - phenylthio - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine (m.p. $155^\circ C$, Example (4) in 1.4 l of acetic acid anhydride. After 10 hours the batch is concentrated in vacuo, a mixture of ethyl acetate and petroleum ether added to the residue and filtered.

8.5 g of N - (2 - butyramido - 4 - phenyl - sulphonyl phenyl) - N',N'' - bis-methoxy - carbonyl - guanidine are obtained with a m.p. of $186^\circ C$ (decomp.), (redissolved from methanol/ethyl acetate). The mass spectrum shows a mol peak of 460.

Using the same method of working, 30 g of N - (2 - methoxy - acetanido - 4-phenyl sulphonyl - phenyl) - N',N'' - bis - methoxy carbonyl - guanidine with a m.p. of $134^\circ C$ are obtained from 31.2 g of N - (2 - methoxy acetamido - 4 - phenylthio-phenyl) - N',N'' - bis - methoxy carbonyl - guanidine and 8.5 ml of H_2O_2 (30%).

Example 411.



According to the method described in Example 410, 12.7 g of N - (2 - butyramido - 4 - phenyl - sulphonyl - phenyl) - N',N'' - bis - methoxy carbonyl - guanidine of m.p. $180^\circ C$ are obtained from 13.3 g of N - (2 - butyramido - 4 - phenylthio - phenyl) - N',N'' bis - methoxy carbonyl - guanidine and 20 ml of H_2O_2 (30%). The mass spectrum shows a mol peak of 476. In an analogous manner, 8.0 g of N - (2 - methoxy acetamido - 4 - phenyl sulphonyl - phenyl) - N',N'' - bis - methoxy carbonyl - guanidine with a m.p. of $142^\circ C$ are obtained from 8.9 g of N - (2-methoxy - acetamido - phenylthio - phenyl) - N',N'' - bis - methoxy carbonyl-guanidine and 14 g of H_2O_2 (30%).

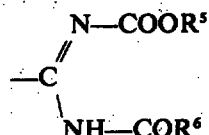
WHAT WE CLAIM IS:—

1. A substituted phenylguanidine of the formula

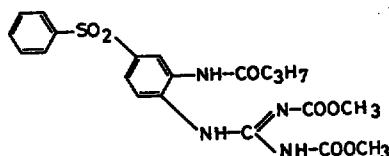


in which

R and R¹ are different from one another and each represents the radical $-COR^4$ or



Example 410.

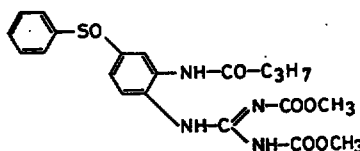


2.3 ml of H_2O_2 (30%) are added dropwise to a solution of 8.9 g of N - (2-butyramido - 4 - phenylthio - phenyl) - N',N'' - bis - methoxycarbonyl - guanidine (m.p. $155^\circ C$, Example (4) in 1.4 l of acetic acid anhydride. After 10 hours the batch is concentrated in vacuo, a mixture of ethyl acetate and petroleum ether added to the residue and filtered.

8.5 g of N - (2 - butyramido - 4 - phenyl - sulphonyl phenyl) - N',N' - bis-methoxy - carbonyl - guanidine are obtained with a m.p. of $186^\circ C$ (decomp.), (redissolved from methanol/ethyl acetate). The mass spectrum shows a mol peak of 460.

Using the same method of working, 30 g of N - (2 - methoxy - acetanido - 4-phenyl sulphanyl - phenyl) - N',N'' - bis - methoxy carbonyl - guanidine with a m.p. of $134^\circ C$ are obtained from 31.2 g of N - (2 - methoxy acetamido - 4 - phenylthio-phenyl) - N',N'' - bis - methoxy carbonyl - guanidine and 8.5 ml of H_2O_2 (30%).

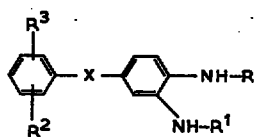
Example 411.



According to the method described in Example 410, 12.7 g of N - (2 - butyramido - 4 - phenyl - sulphonyl - phenyl) - N',N'' - bis - methoxy carbonyl - guanidine of m.p. $180^\circ C$ are obtained from 13.3 g of N - (2 - butyramido - 4 - phenylthio - phenyl) - N',N'' bis - methoxy carbonyl - guanidine and 20 ml of H_2O_2 (30%). The mass spectrum shows a mol peak of 476. In an analogous manner, 8.0 g of N - (2 - methoxy acetamido - 4 - phenyl sulphonyl - phenyl) - N',N'' - bis - methoxy carbonyl - guanidine with a m.p. of $142^\circ C$ are obtained from 8.9 g of N - (2-methoxy - acetamido - phenylthio - phenyl) - N',N'' - bis - methoxy carbonyl-guanidine and 14 g of H_2O_2 (30%).

WHAT WE CLAIM IS:—

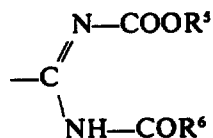
1. A substituted phenylguanidine of the formula



(I)

in which

R and R¹ are different from one another and each represents the radical —COR⁴ or





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in which

R⁴ represents a hydrogen atom, or an optionally-substituted alkyl, optionally-substituted cycloalkyl, optionally-substituted aryl, optionally-substituted amino, optionally-substituted alkoxy or optionally-substituted aralkyl group, R⁵ represents an optionally-substituted alkyl, optionally-substituted alkenyl or optionally-substituted alkynyl group,

R⁶ represents a hydrogen atom or an optionally-substituted alkyl, optionally-substituted cycloalkyl, optionally-substituted alkoxy, optionally-substituted alkenyloxy, optionally-substituted alkynyloxy, optionally-substituted aryl, optionally-substituted aralkyl, optionally-substituted alkenyl or optionally-substituted alkynyl group

and wherein

R² and R³ can be identical or different and each represents a hydrogen atom, an optionally-substituted alkyl, optionally-substituted alkoxy or optionally-substituted amino group, a halogen atom or a nitrile, optionally-substituted alkylthio, optionally-substituted acyl or optionally-substituted carbalkoxy group

and wherein

X represents an oxygen atom, a sulphur atom, a sulphinyl group or a sulphonyl group.

2. A compound according to claim 1 in which

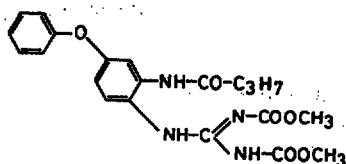
R² and R³ represent a hydrogen atom, a methyl, ethyl, n-butyl, methoxy or ethoxy group, a fluorine, chlorine or bromine atom, or a nitrile, methylmercapto, trifluoromethyl, acetyl, propionyl, acetylamino or carbomethoxyamino group,

R⁴ represents a methyl, ethyl, propyl, n-butyl, i-butyl, n-pentyl, n-hexyl, cyclopentyl, cyclohexyl, phenyl, benzyl, methoxymethyl, methoxy, ethoxy, phenoxymethyl, methylamino, ethylamino, n-butylamino, n-cyanopentyl-amino or β -methoxyethylamino group

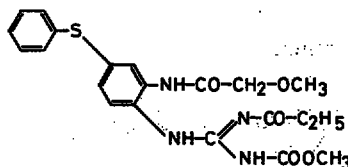
R⁵ represents a methyl, ethyl, i-propyl, sec.-butyl propenyl-(2) or propinyl group and

R⁶ represents a methyl, ethyl, propyl, isopropyl, n-amyl, isoamyl, n-butyl, cyclohexyl, benzyl, methoxymethyl, phenoxymethyl, allyl, crotyl, methallyl, methoxy, ethoxy-i-propoxy, sec.-butoxy, propenyl-(2)-oxy, propinyl-(2)-oxy, or 2-methyl-propenyl-(2)-oxy group.

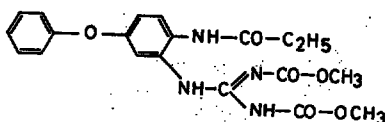
3. A compound of the formula:—



4. A compound of the formula:—



5. A compound of the formula:—



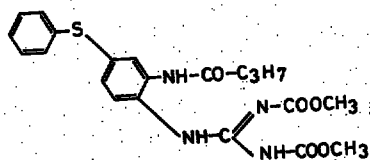
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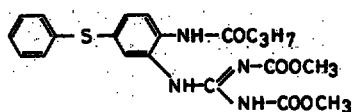
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6. A compound of the formula:—



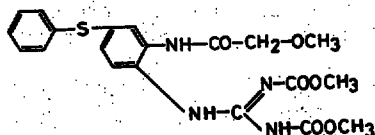
7. A compound of the formula:—



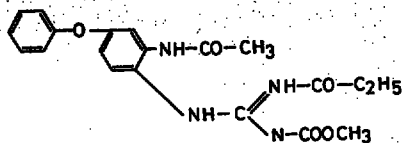
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8. A compound of the formula

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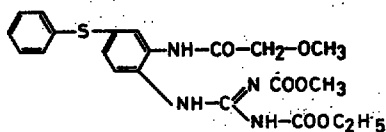


9. A compound of the formula



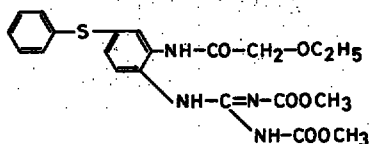
10. A compound of the formula

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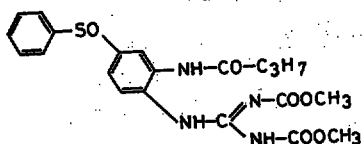


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11. A compound of the formula



12. A compound of the formula





* C L M S *

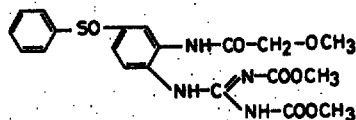
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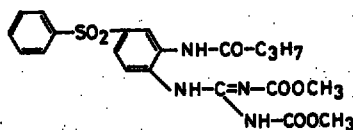
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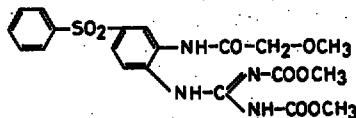
13. A compound of the formula



14. A compound of the formula

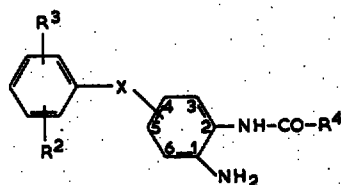


15. A compound of the formula



16. Any compound according to claim 1 which is hereinbefore specifically described, other than those according to claims 3 to 16 and those described in Examples A3, A4, C22 to C34, 15, 20, 21, 90 to 92, 99, 112, 114 to 133, 136, 145 and 152 to 157.

17. A process for preparing a substituted phenyl-guanidine according to any one of claims 1 to 16 comprising reacting a substituted aniline derivative of the formula



(II)

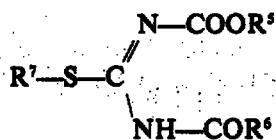
in which

R^2 , R^3 , R^4 and X are as defined in claim 1

and in which

X can be linked to position 4 or position 5 of the substituted amino-phenyl group of the formula (II),

with an isothiurea of the formula



(III)

in which

R^5 and R^6 are as defined in claim 1 and

R^7 represents an alkyl group of from 1 to 4 carbon atoms,

in the presence of a diluent and, optionally, in the presence of an acid.

18. A process according to claim 17 in which the reaction is effected at a temperature of from 30 to 100°C.

19. A process according to claim 17 or claim 18 in which the reaction is carried out at the boiling point of the solvent.

20. A process according to any one of claims 17 to 19 wherein the isothiurea and the substituted aniline derivative are reacted in a mole ratio of 1:1.

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21. A process for the production of a compound according to claim 1 substantially as hereinbefore described in any of Examples 1 to 14, 16 to 19, 22 to 89, 93 to 98, 100 to 111, 113, 134, 135, 137 to 144, 158 to 409, and 146 to 151.

22. A compound according to claim 1 whenever prepared by a process according to any of claims 17 to 21.

23. A pharmaceutical composition containing as an active ingredient a compound according to any one of claims 1 to 16 and 22 in admixture with a solid or liquefied gaseous diluent or in admixture with a liquid diluent other than a solvent of a molecular weight less than 200 except in the presence of a surface-active agent.

24. A pharmaceutical composition containing as an active ingredient a compound according to any of claims 1 to 16 and 22 in the form of a sterile or isotonic aqueous solution.

25. A composition according to claim 23 or 24 containing from 0.5 to 95% by weight of the said active ingredient.

26. A medicament in dosage unit form comprising a compound according to any of claims 1 to 16 and 22 either alone or in admixture with a diluent.

27. A medicament in the form of tablets, pills, dragees, capsules, ampoules, or suppositories comprising a compound according to any of claims 1 to 16, and 22 either alone or in admixture with a diluent.

28. A method of combating helminthiases in non-human animals which comprises administering to the animals an active compound according to any of claims 1 to 16 and 22 either alone or in admixture with a diluent or in the form of a medicament according to claim 27 or 28.

29. A method according to claim 28 in which the active compound is administered in an amount of from 0.1 to 50 mg per kg of body weight per day.

30. A method according to claim 28 or 29 in which the active compound is administered orally.

31. A compound according to claim 1 as described in any one of Examples A3, A4, C22 to C34, 15, 20, 21, 90 to 92, 99, 114 to 133, 136 and 152 to 157.

32. A process according to claim 17 substantially as hereinbefore described in any one of Examples 15, 20, 21, 90 to 92, 99, 114 to 133, 136 and 152 to 157.

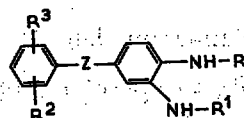
33. A compound according to claim 1 when prepared by a process according to claim 32.

34. A composition according to any one of claims 23 to 25 wherein the active ingredient is a compound according to claim 31 or claim 33.

35. A medicament according to claim 26 or claim 27 wherein said compound is a compound according to claim 31 or claim 33.

36. A method according to any one of claims 28 to 30 wherein the active compound is a compound according to claim 31 or claim 33.

37. A process for preparing a substituted phenylguanidine having formula

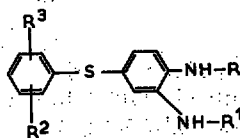


(Ia)

wherein

R, R¹, R² and R³ are as defined in claim 1 and

Z represents a sulphonyl or a sulphonyl group comprising reacting a substituted phenylguanidine having formula



(Ib)

in which R, R¹, R² and R³ have the meaning as indicated above with the appropriate amount of an oxidation agent.

38. A process for preparing a substituted phenylguanidine of the formula (Ia) substantially as hereinbefore described in Example 410 or 411.



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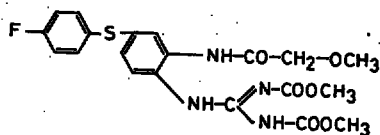
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39. A compound of the formula (Ia) whenever prepared by a process according to claim 37 or claim 38.

40. A compound of the formula



5 41. A compound according to claim 1 as described in Example 112 or Example 145. 5

42. A composition according to any one of claims 23 to 25 wherein the active ingredient is a compound according to claims 39, 40 or 41.

10 43. A medicament according to claim 26 or claim 27 wherein the said compound is a compound according to claim 39, 40 or 41. 10

44. A method according to any one of claims 28 to 30 wherein the active compound is a compound according to claim 39, 40 or 41.

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Printed for Her Majesty's Stationery Office by the Courier Press, Leamington Spa, 1977.
Published by the Patent Office, 25 Southampton Buildings, London, WC2A 1AY, from
which copies may be obtained.