

FIGURE 1
STRUCTURES OF SOME HYDROXYBENZOATES

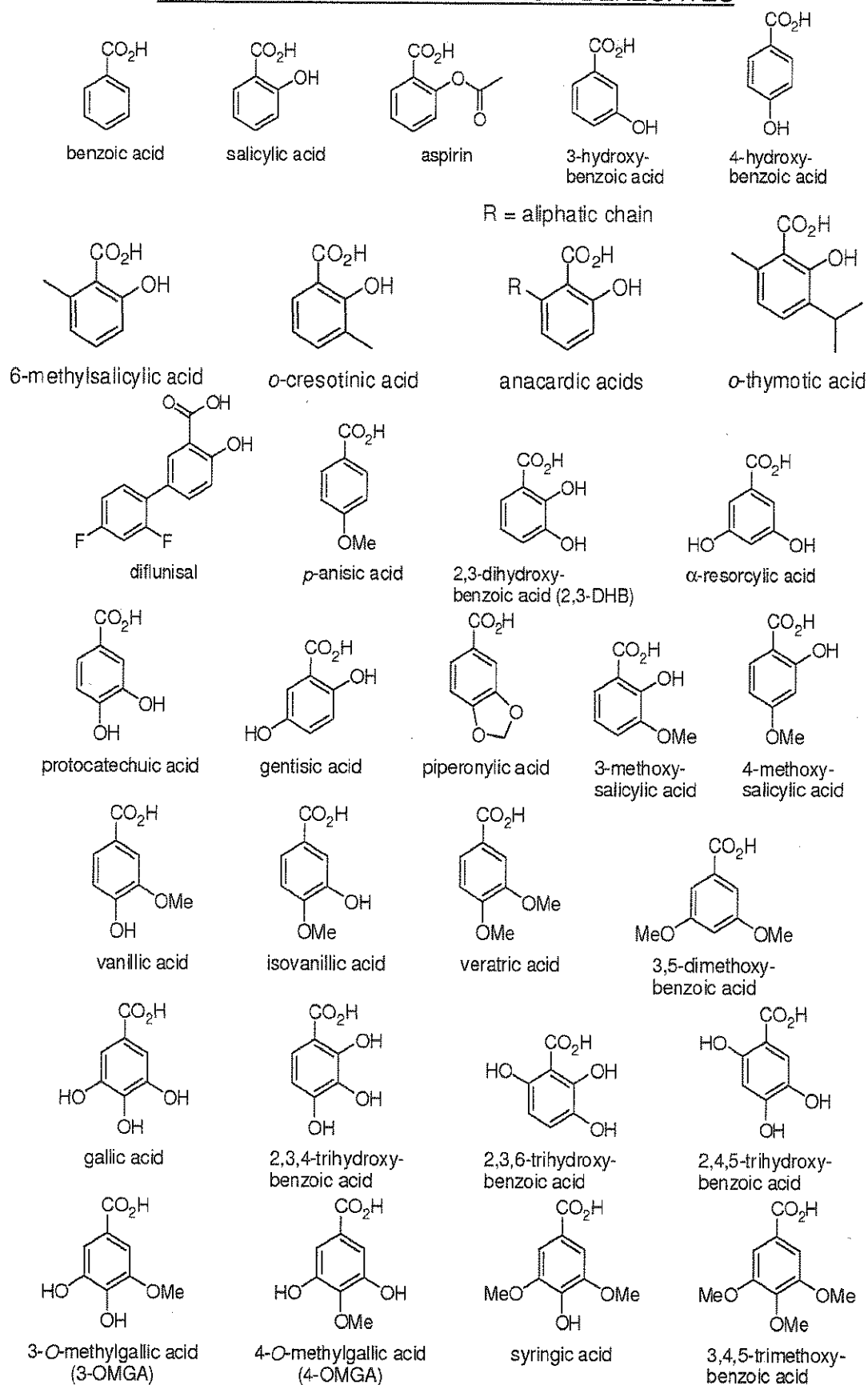
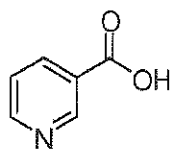
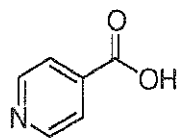


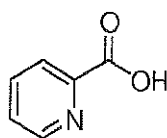
FIGURE 2
STRUCTURES OF SOME HETEROARYL CARBOXYLIC ACIDS



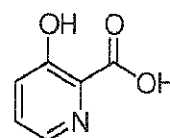
nicotinic acid



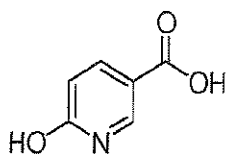
isonicotinic acid



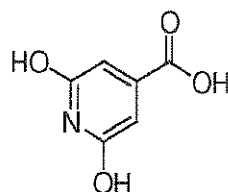
picolinic acid



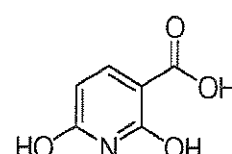
3-hydroxypicolinic acid



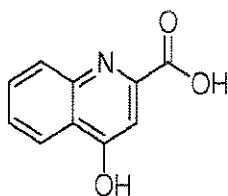
6-hydroxynicotinic acid



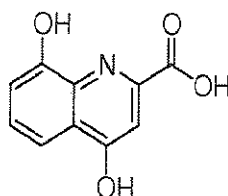
citrazinic acid



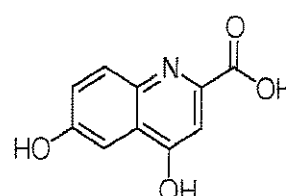
2,6-dihydroxynicotinic acid



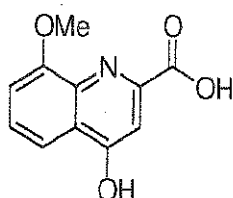
kynurenic acid



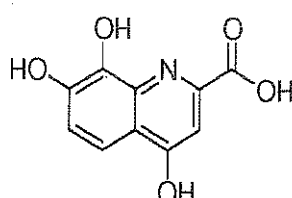
xanthurenic acid



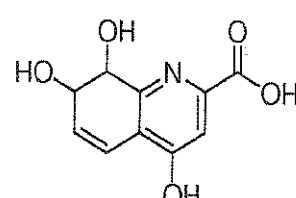
6-hydroxy-kynurenic acid



8-methoxykynurenic acid

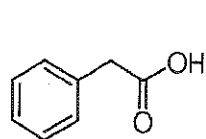


7,8-dihydroxy-kynurenic acid

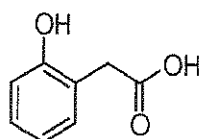


7,8-dihydro-7,8-dihydroxykynurenic acid

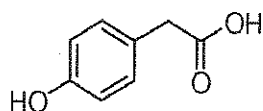
FIGURE 3
STRUCTURES OF SOME PHENYLACETATES



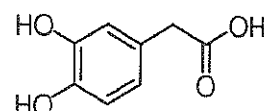
phenylacetic acid
(hydratropic acid)



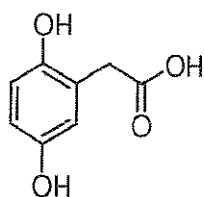
2-hydroxyphenyl-
acetic acid



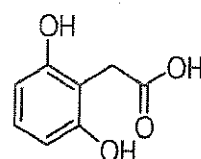
4-hydroxyphenyl-
acetic acid



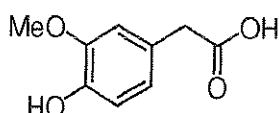
homoprotocatechuic acid



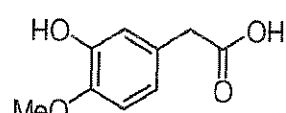
homogentisic acid



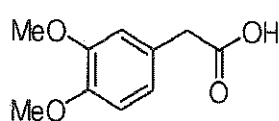
2,6-dihydroxy-
phenylacetic acid



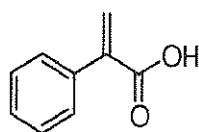
homovanillic acid



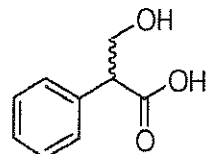
homoisovanillic acid



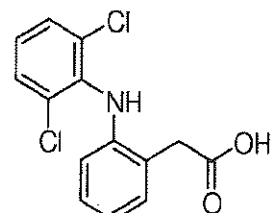
homoveratric acid



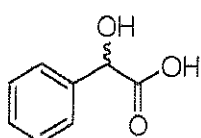
atropic acid



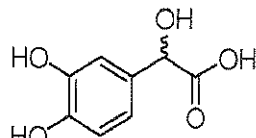
tropic acid



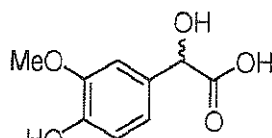
diclofenac



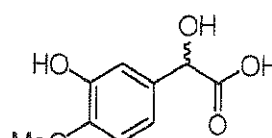
mandelic acid



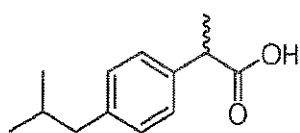
3,4-dihydroxymandelic acid



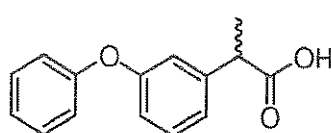
vanillylmandelic acid



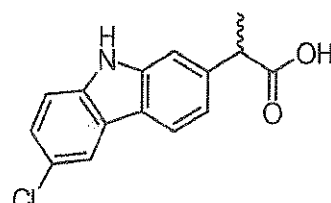
isovanillylmandelic acid



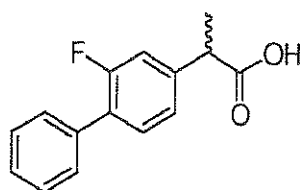
ibuprofen



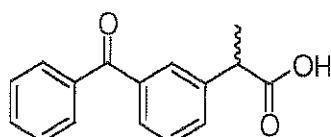
fenopfen



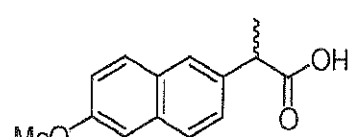
carprofen



flurbiprofen



ketoprofen



naproxen

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FIGURE 4
STRUCTURES OF SOME BENZYLACETATES

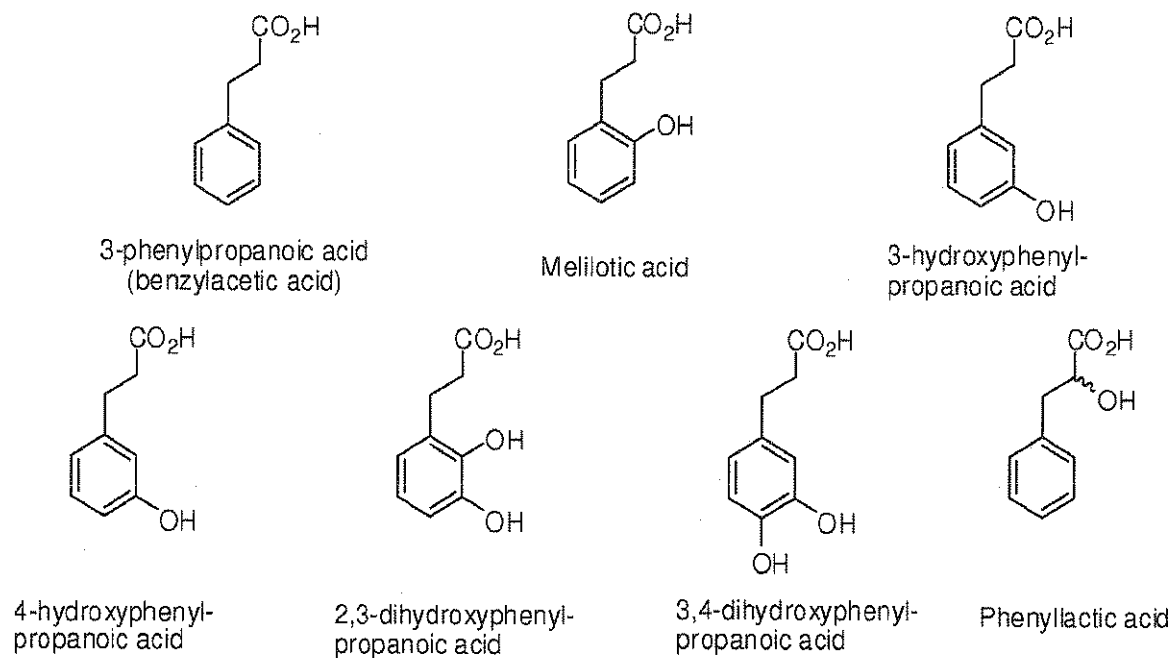
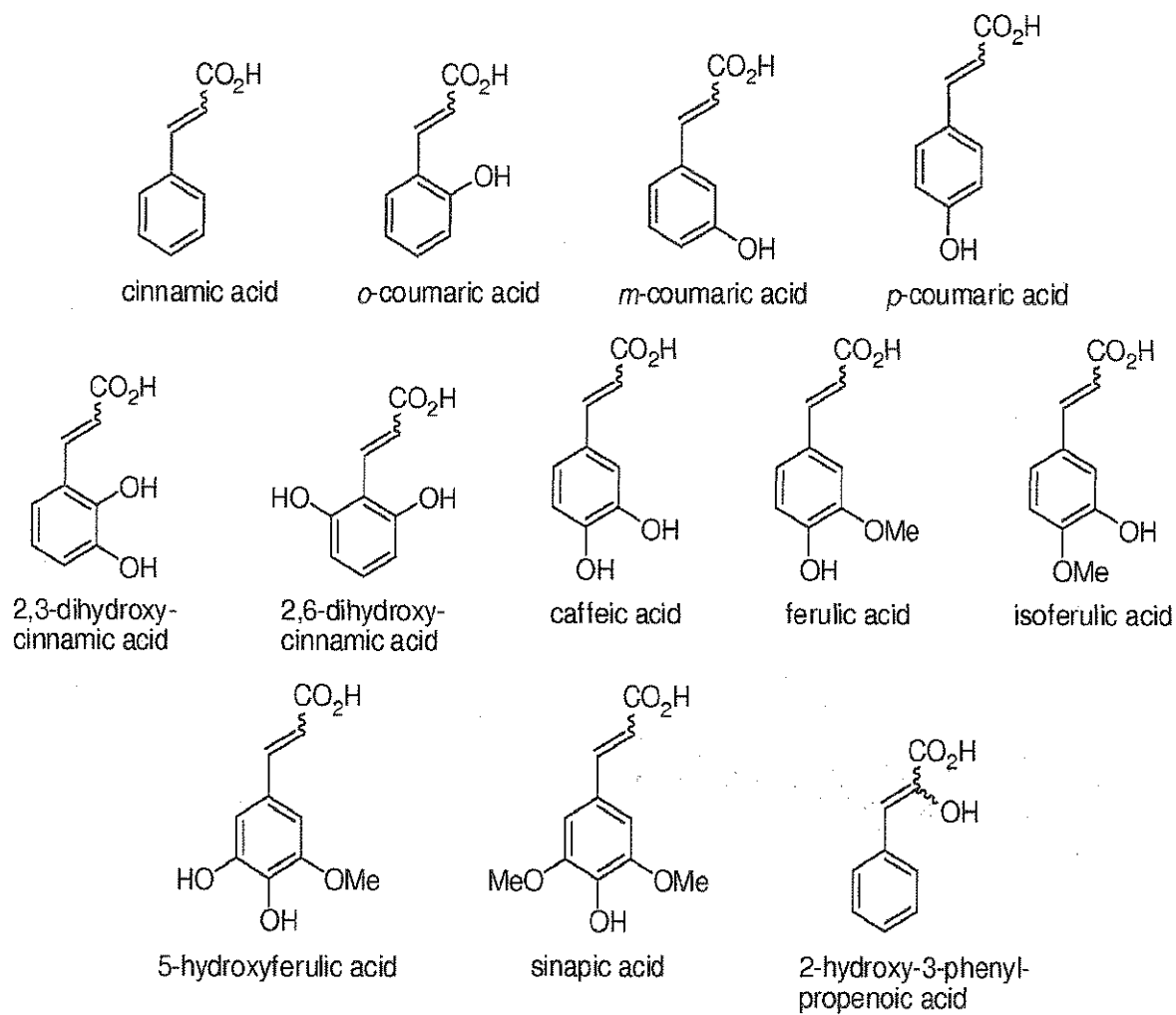
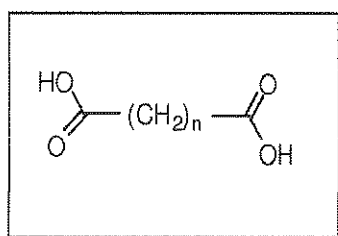


FIGURE 5
STRUCTURES OF SOME CINNAMATES



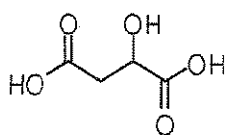
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FIGURE 6
STRUCTURES OF SOME DICARBOXYLIC ACIDS

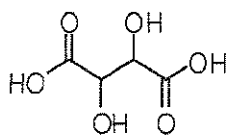


When

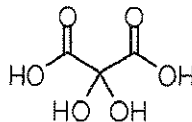
- | | |
|-------|---------------|
| n = 0 | Oxalic acid |
| n = 1 | Malonic acid |
| n = 2 | Succinic acid |
| n = 3 | Glutaric acid |
| n = 4 | Adipic acid |
| n = 5 | Pimelic acid |
| n = 6 | Suberic acid |
| n = 7 | Azelaic acid |
| n = 8 | Sebacic acid |



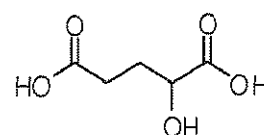
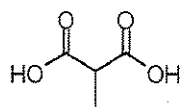
Malic acid



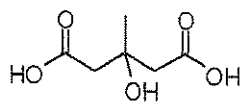
Tartaric acid



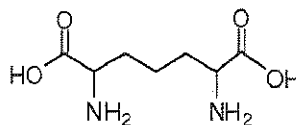
dihydroxymesoxalic acid

 α -hydroxyglutaric acid

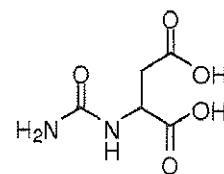
Methylmalonic acid



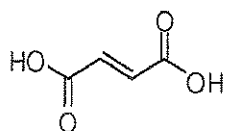
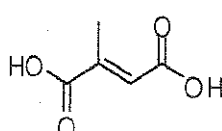
Meglutol



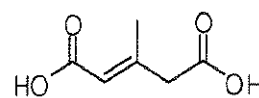
Diaminopimelic acid



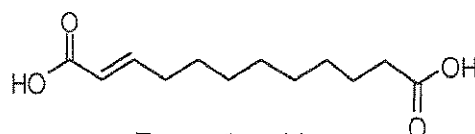
Carbamoyl aspartic acid

Fumaric acid (trans isomer)
Maleic acid (cis isomer)

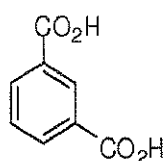
Mesaconic acid



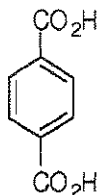
3-methylglutaconic acid



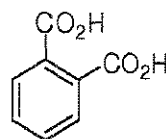
Traumatic acid



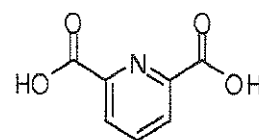
Isophthalic acid



Terephthalic acid



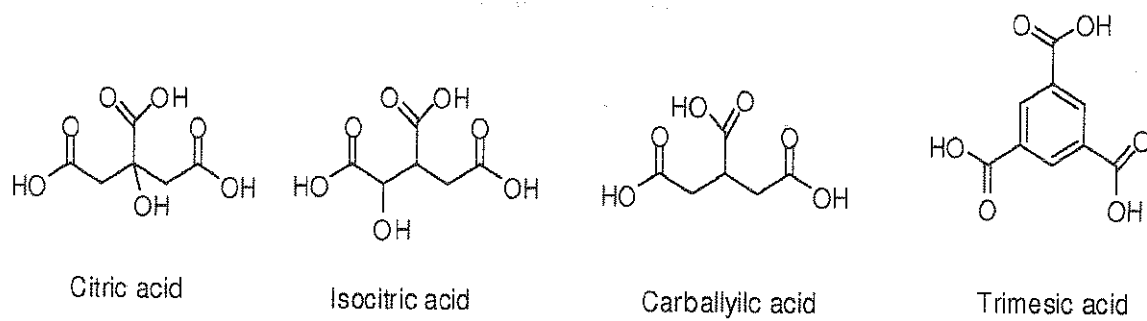
Phthalic acid



Dipicolinic acid

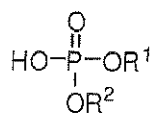
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FIGURE 7
STRUCTURES OF SOME TRICARBOXYLIC ACIDS

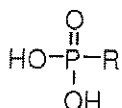


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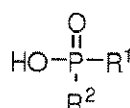
FIGURE 8
GENERAL STRUCTURES OF SOME INORGANIC OXOACIDS



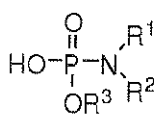
Phosphate



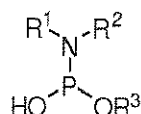
Phosphonate



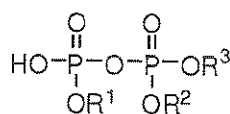
Phosphinate



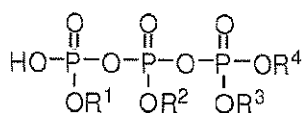
Phosphoramidate



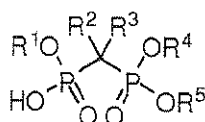
Phosphoramidite



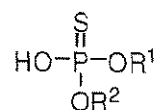
Diphosphate



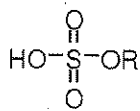
Triphosphate



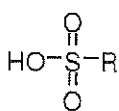
Biphosphonate



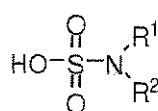
Phosphorothioate



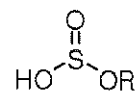
Sulfate



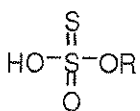
Sulfonate



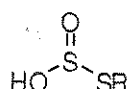
Sulfamate



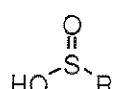
Sulfite



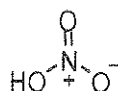
Thiosulfate



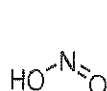
Thiosulfite



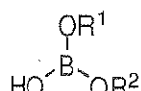
Sulfinate



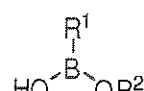
Nitrate



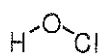
Nitrite



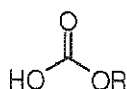
Borate



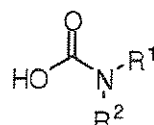
Boronate



Hypochlorite



Carbonate

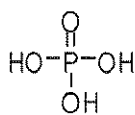


Carbamate

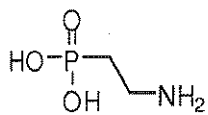
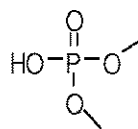
R, R¹, R², R³, R⁴, R⁵ = alkyl or aryl.

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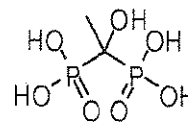
FIGURE 9
STRUCTURES OF SOME INORGANIC OXOACID DERIVATIVES



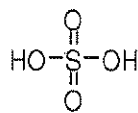
Phosphate

2-Aminoethyl-
phosphonate

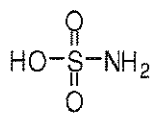
Dimethylphosphate



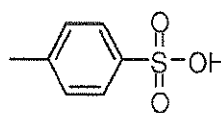
Etidronate



Sulfate



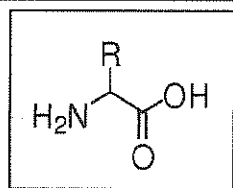
Sulfamate



Tosylate

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FIGURE 10.
GENERAL STRUCTURES OF THE STANDARD AMINO ACIDS

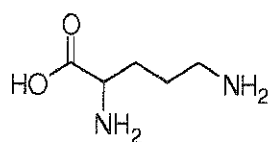


R =

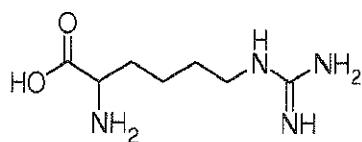
-H	Glycine		Histidine
-CH ₃	Alanine		Serine
	Phenylalanine		Cysteine
	Tyrosine		Threonine
	Aspartic acid		Methionine
	Glutamic acid		Valine
	Asparagine		Leucine
	Glutamine		Isoleucine
	Lysine		Tryptophan
	Arginine		Proline
	Selenocysteine		Pyrrolysine

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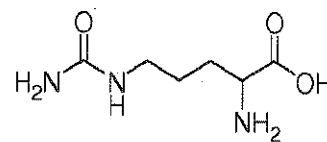
FIGURE 11.
STRUCTURES OF SOME NON-STANDARD AMINO ACIDS



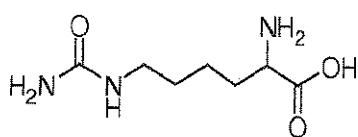
Ornithine



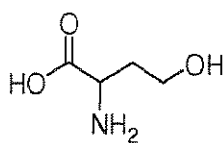
Homoarginine



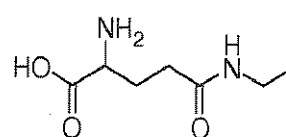
Citrulline



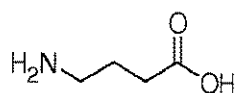
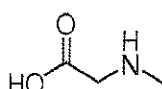
Homocitrulline



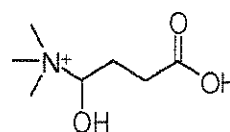
Homoserine



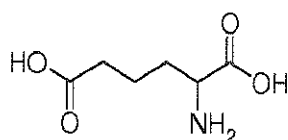
Theanine

 γ -Aminobutyric acid

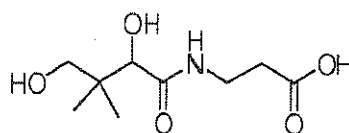
Sarcosine



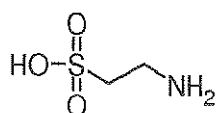
Carnitine



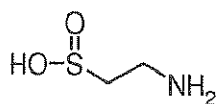
2-Aminoadipic acid



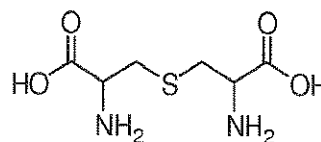
Pantothenic acid



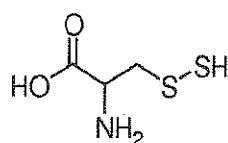
Taurine



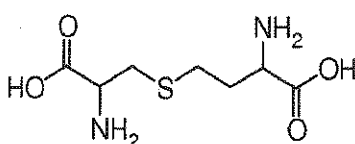
Hypotaurine



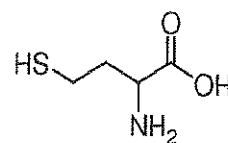
Lanthionine



Thiocysteine



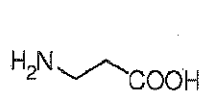
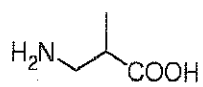
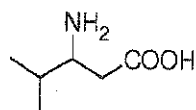
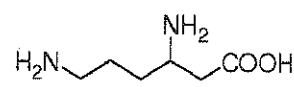
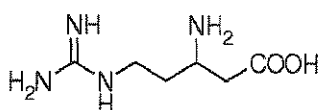
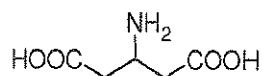
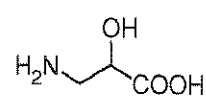
Cystathionine



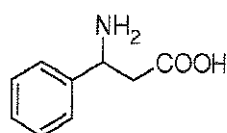
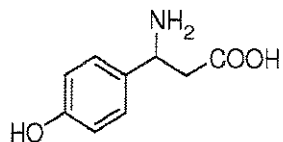
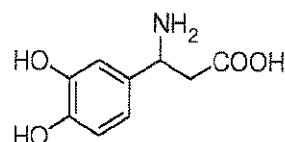
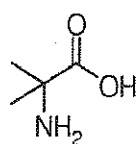
Homocysteine

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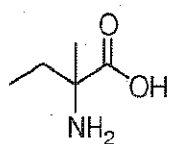
FIGURE 11. (CONT.)

 β -Alanine β -Aminoisobutyric acid β -Leucine β -Lysine β -Arginine β -Glutamate

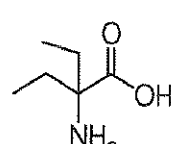
Isoserine

 β -Phenylalanine β -Tyrosine β -Dopa

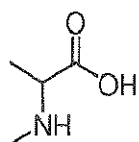
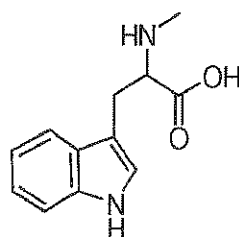
2-Aminoisobutyric acid



Isovaline



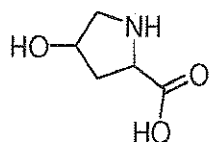
Di-n-ethylglycine

*N*-Methyl-alanine

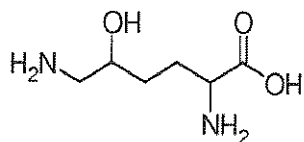
L-Abrine

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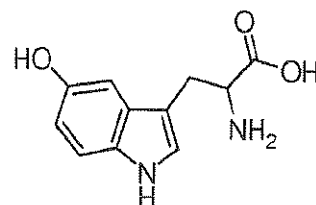
FIGURE 11. (CONT.)



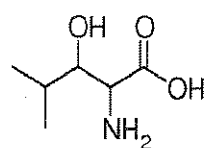
4-Hydroxyproline



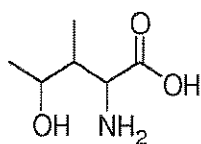
5-Hydroxylysine



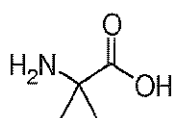
5-Hydroxy-tryptophan



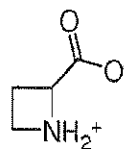
3-Hydroxyleucine



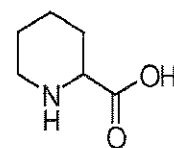
4-Hydroxyisoleucine



1-Aminocyclopropyl-1-carboxylic acid



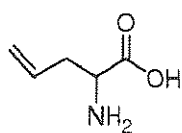
Azetidine-2-carboxylic acid



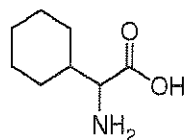
Pipecolic acid

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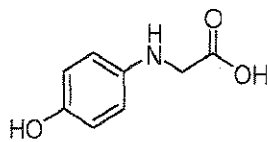
FIGURE 12.
STRUCTURES OF SOME SYNTHETIC AMINO ACIDS



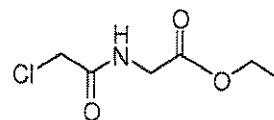
Allylglycine



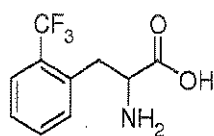
Cyclohexylglycine



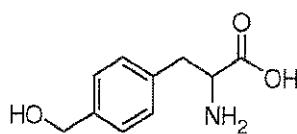
N-(4-Hydroxyphenyl)glycine



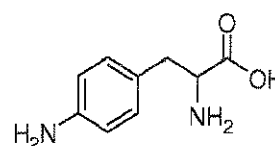
N-(Chloroacetyl)glycine ethyl ester



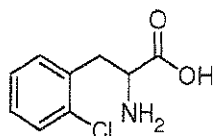
2-(Trifluoromethyl)-phenylalanine



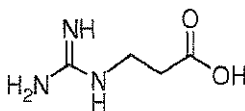
4-(Hydroxymethyl)-phenylalanine



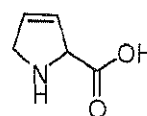
4-Amino-phenylalanine



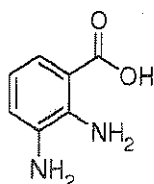
2-Chlorophenylglycine



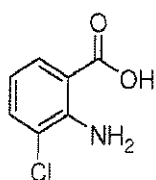
3-Guanidinopropionic acid



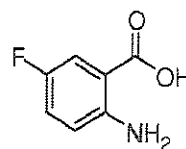
3,4-Dehydro-proline



2,3-Diaminobenzoic acid

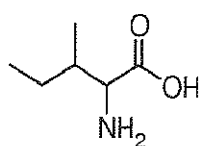


2-Amino-3-chlorobenzoic acid

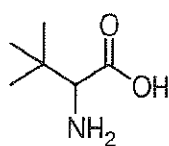


2-Amino-5-fluorobenzoic acid

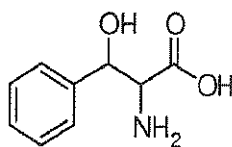
FIGURE 12. (CONT.)



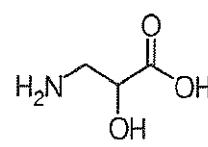
Allo-isoleucine



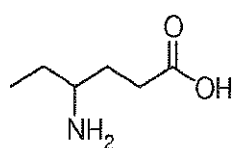
tert-Leucine



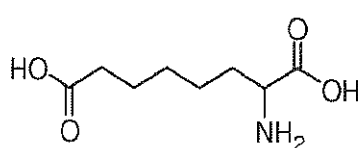
3-Phenylserine



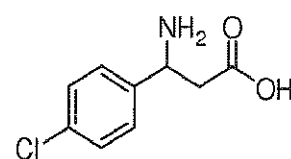
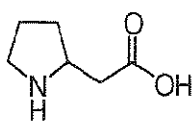
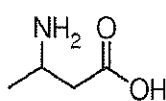
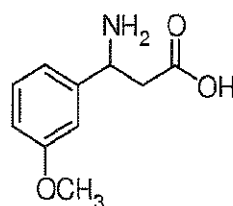
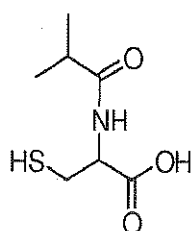
Isoserine



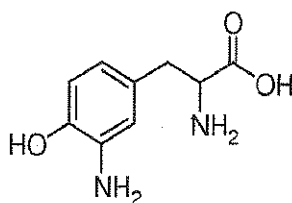
3-Aminopentanoic acid



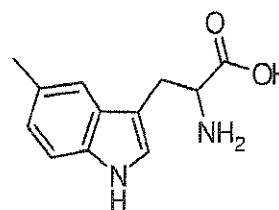
2-Amino-octanedioic acid

4-Chloro- β -phenylalanine β -Homoproline β -Homoalanine3-Amino-3-(3-methoxyphenyl)
propionic acid

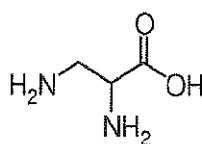
N-Isobutyryl-cysteine



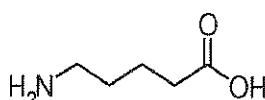
3-Amino-tyrosine



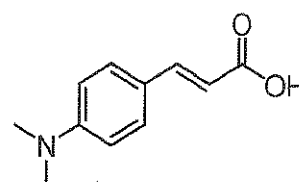
5-Methyl-tryptophan



2,3-Diaminopropionic Acid



5-Aminovaleric acid



4-(Dimethylamino)cinnamic acid

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FIGURE 13

Oral PK Curves

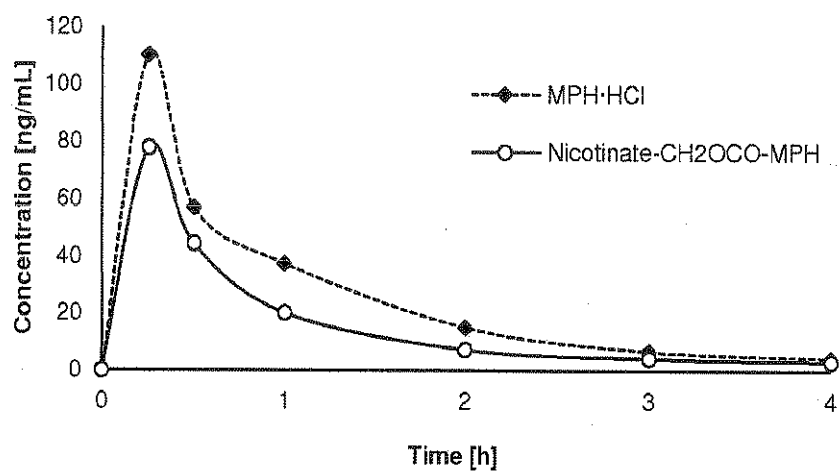
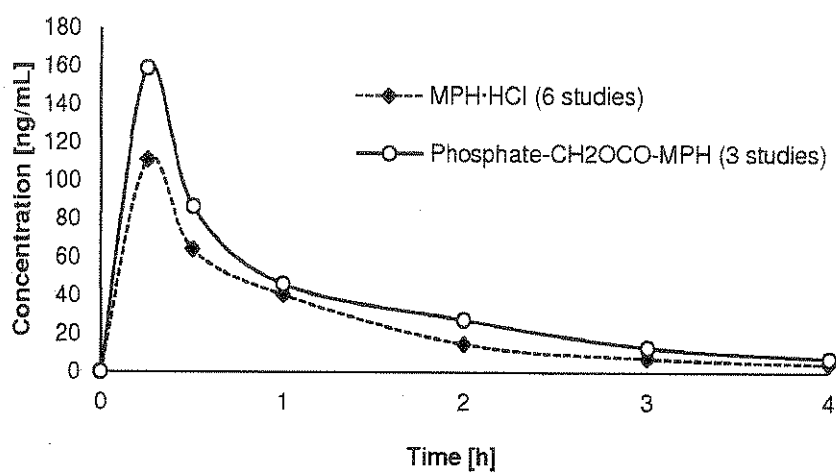


FIGURE 14

Oral PK Curves



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FIGURE 15

Oral PK Curves

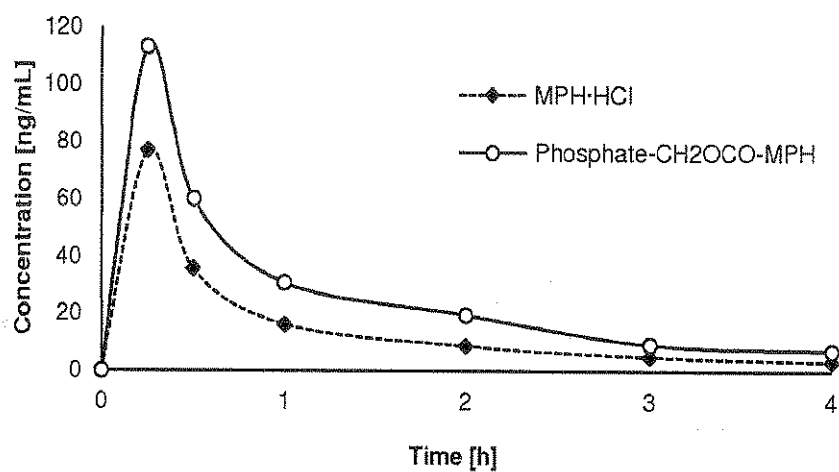
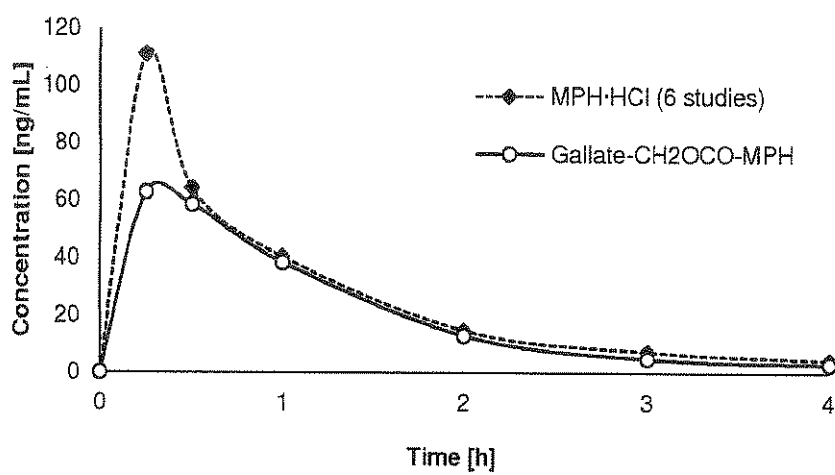


FIGURE 16

Oral PK Curves



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FIGURE 17

Oral PK Curves

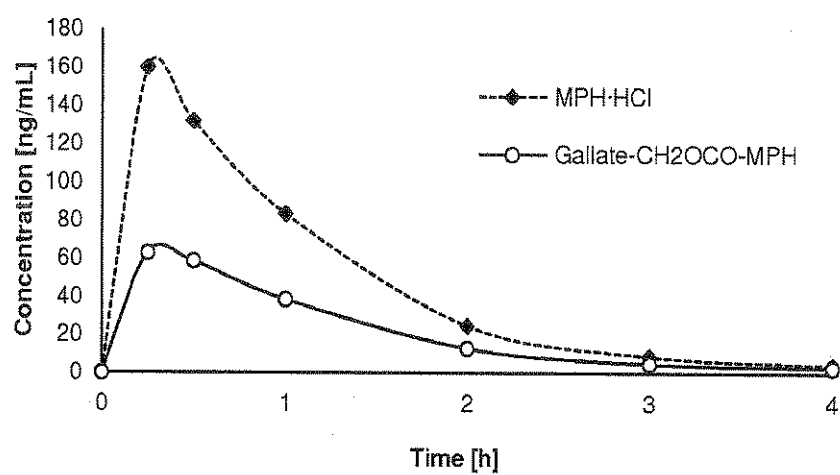
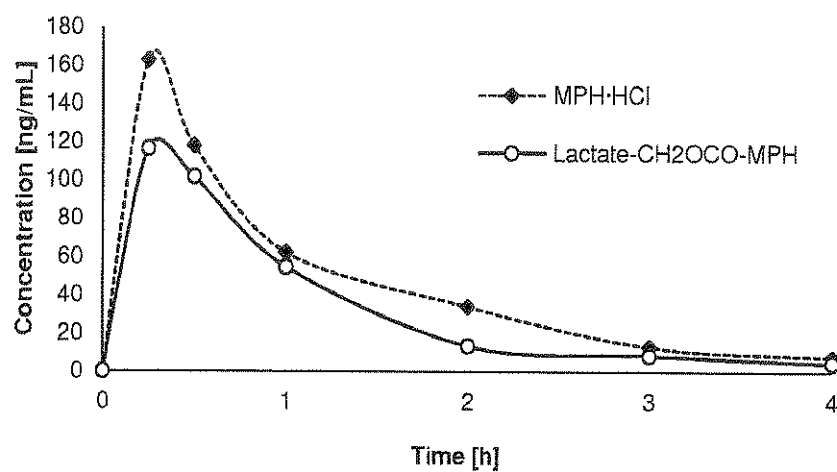


FIGURE 18

Oral PK Curves



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FIGURE 19

Oral PK Curves

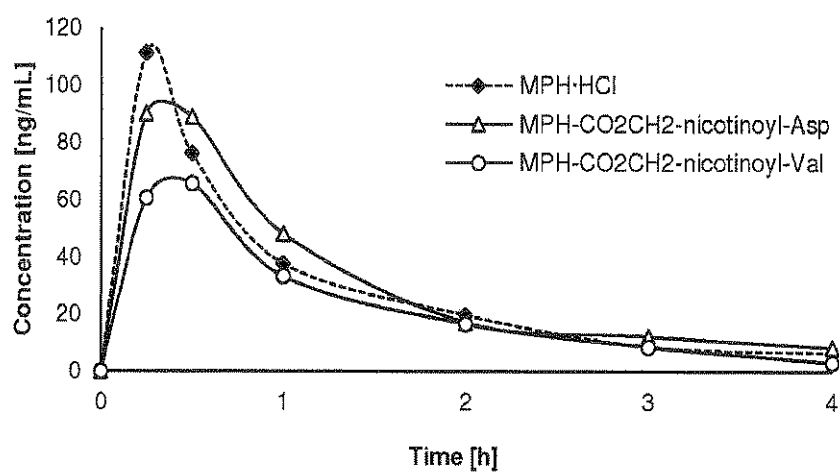
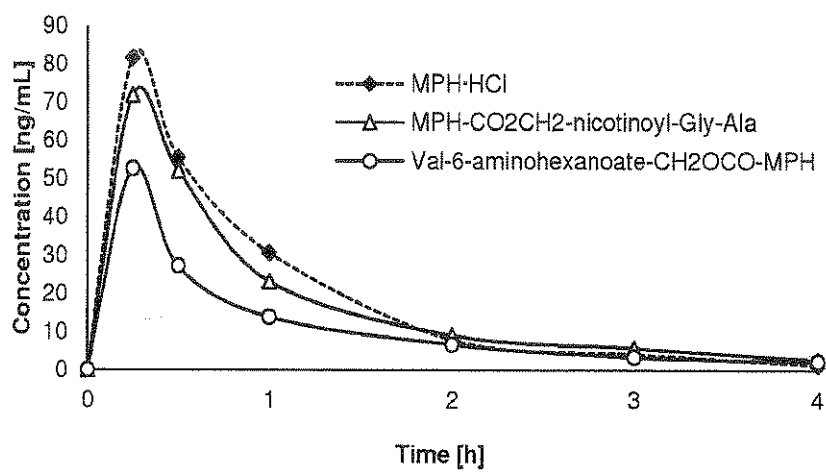


FIGURE 20

Oral PK Curves



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FIGURE 21

Oral PK Curves

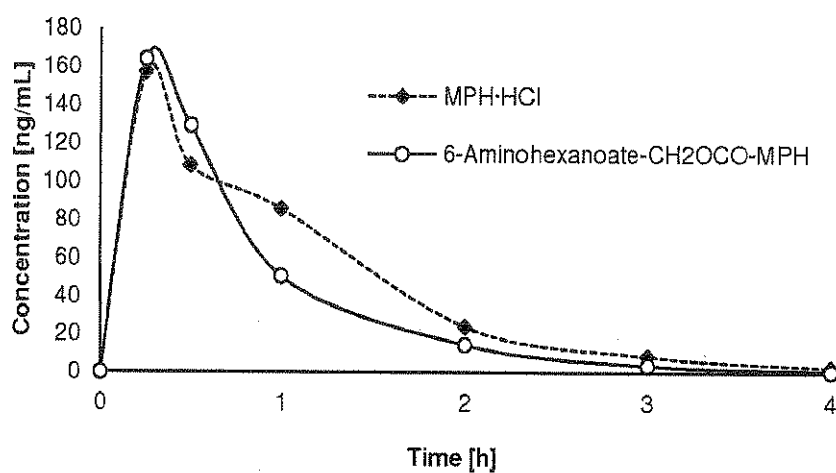
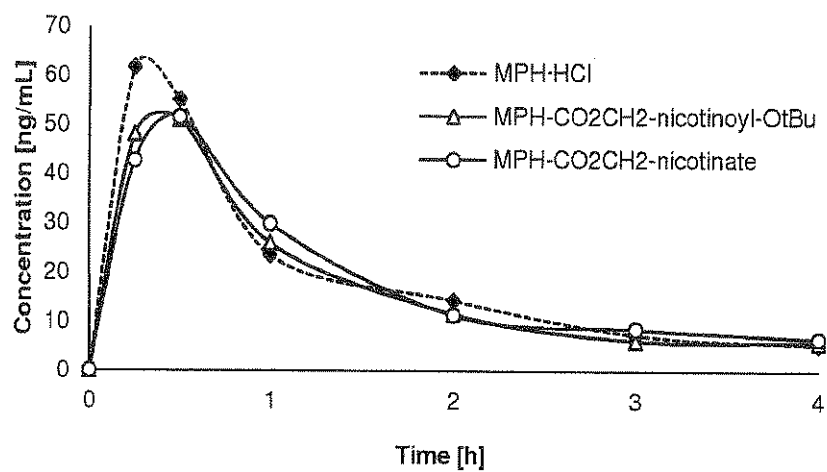


FIGURE 22

Oral PK Curves



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FIGURE 23

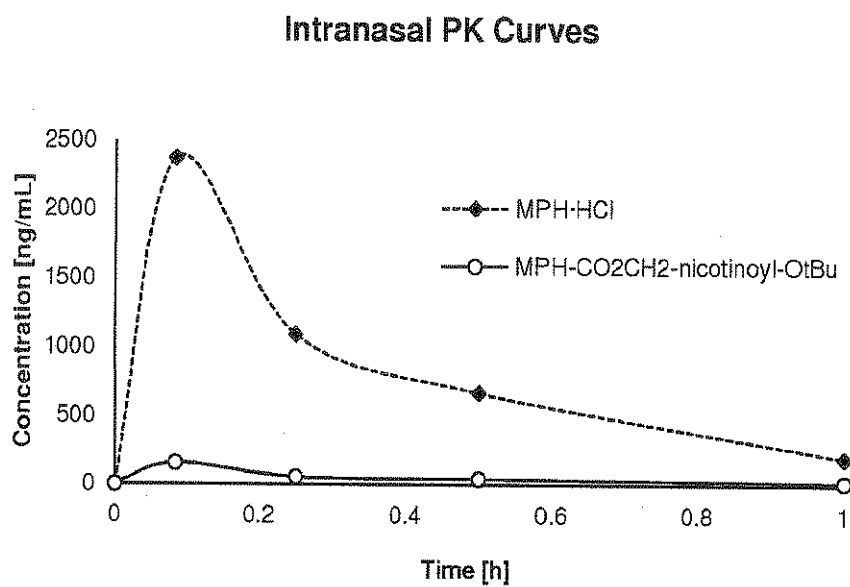
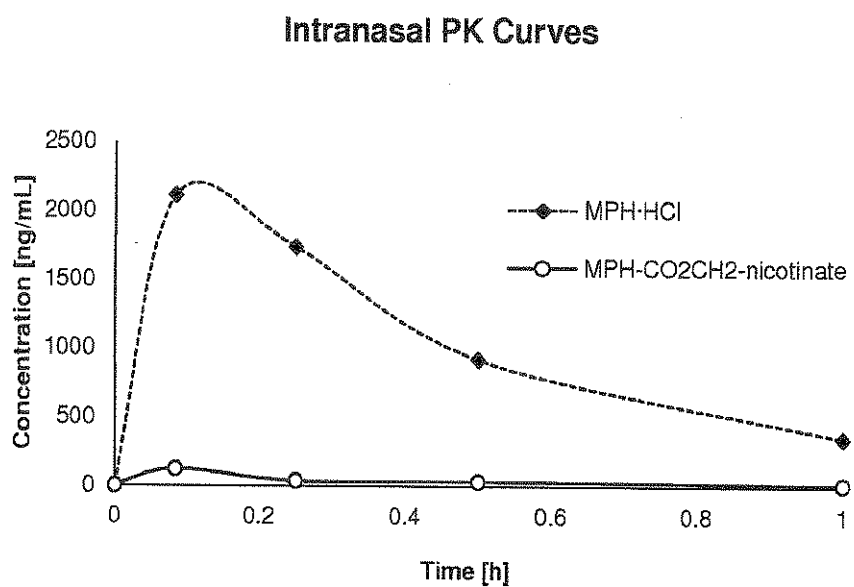


FIGURE 24



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FIGURE 25

Oral PK Curves

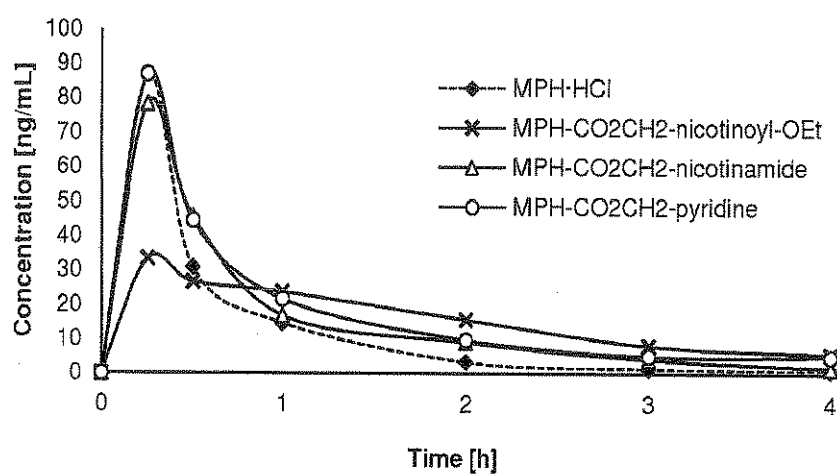
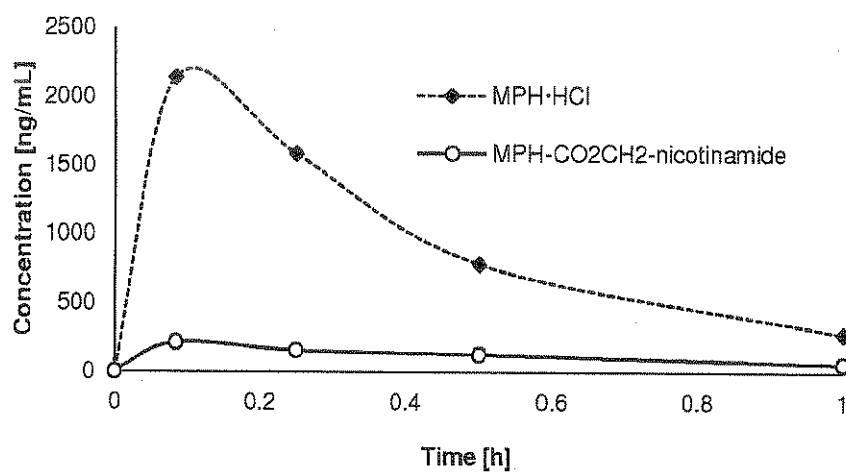


FIGURE 26

Intranasal PK Curves



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FIGURE 27

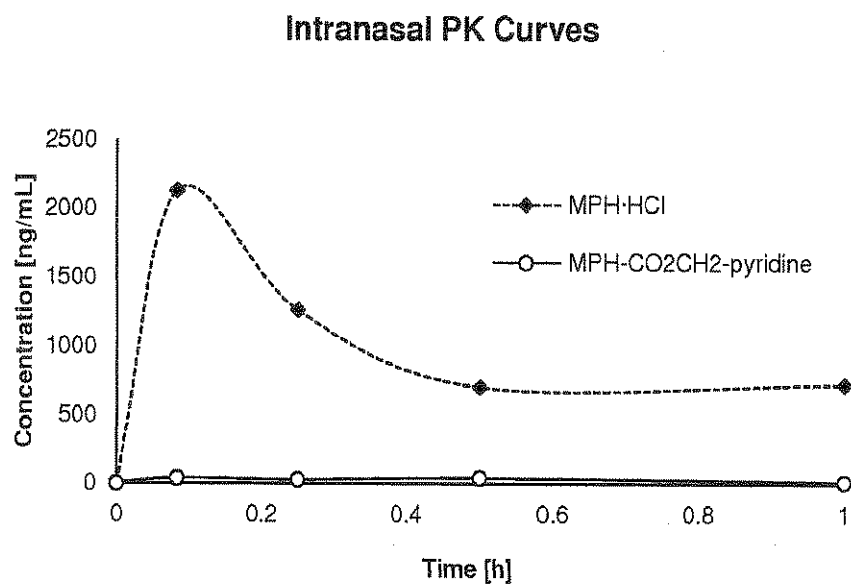
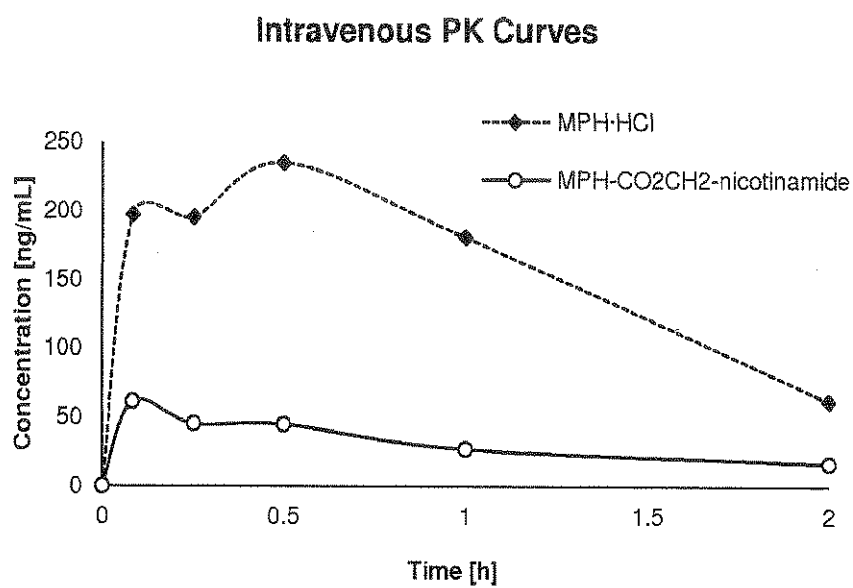


FIGURE 28



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FIGURE 29

Intravenous PK Curves

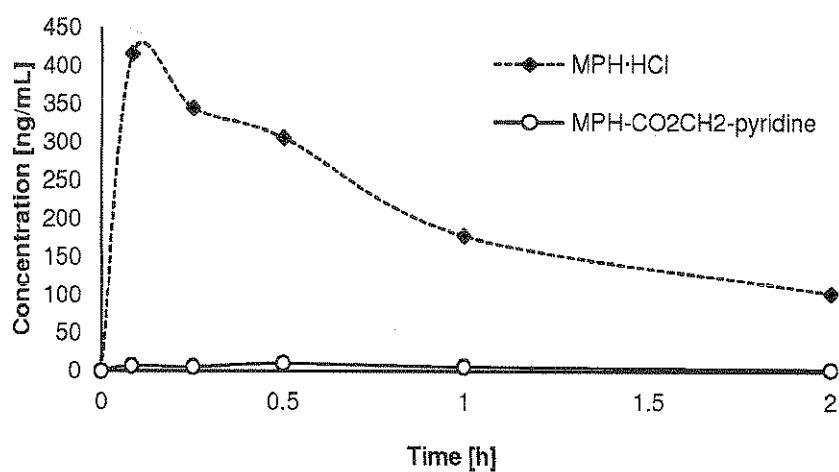


FIGURE 30

Oral PK Curves

