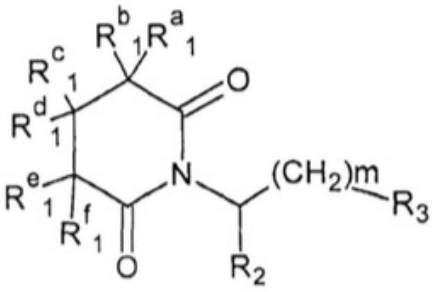
CLAIMS

1. A compound of general formula I:



wherein m is an integer from 1 to 2;

R^a_1, R^b_1, R^c_1, R^d_1, R^e_1, and R^f_1, each independently represents hydrogen, C_1–C_6alkyl; $-NH_2$, $-NHC_1$–C_6alkyl, hydroxyl, or C_1–C_6alkoxy;

R_2 is hydrogen, C_1–C_6alkyl, –C(O)OH, $-C(O)OC_1$–C_6alkyl;

R_3 is:

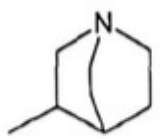
1) a 5-membered saturated or unsaturated heterocyclic group comprising from 1 to 4 heteroatoms selected from N, O and S, optionally substituted with 1 to 3 substituents selected from halogen, C_1–C_6alkyl, C_1–C_6alkoxy, –C(O)OH, $-C(O)OC_1$–C_6alkyl, $-NHC(O)C_1$–C_6alkyl, phenyl, or pyridinyl;

2) a 6-membered saturated or unsaturated heterocyclic group comprising from 1 to 2 heteroatoms selected from N and O, optionally substituted with a group selected from halogen and C_1–C_6alkyl;

3) a 5-membered unsaturated heterocyclic group comprising from 1 to 3 heteroatoms selected from N and S, optionally substituted with 1 or 2 substituents selected from C_1–C_6alkyl, condensed with a 6-membered unsaturated nitrogen-containing cyclic or heterocyclic group optionally substituted with 1 or 2 substituents selected from hydroxyl, halogen or C_1–C_6alkyl;

4) a 6-membered unsaturated cyclic or heterocyclic group comprising from 1 to 2 nitrogen atoms, condensed with a 5- or 6-membered unsaturated heterocyclic group comprising from 1 to 3 heteroatoms selected from N and S; or

5) a group of the formula:

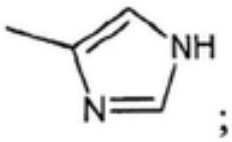


,

or a pharmaceutically acceptable salt thereof,

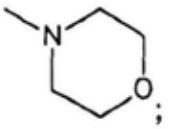
with a proviso that the compound is not a compound, wherein:

when m is 1, R^{a}_{1}, R^{b}_{1}, R^{c}_{1}, R^{d}_{1}, R^{e}_{1}, and R^{f}_{1} are hydrogen and R_2 is $-C(O)OCH_3$, R_3 is not:



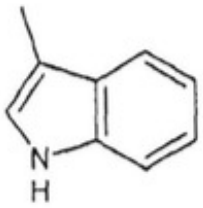
;

when m is 1, R^{a}_{1}, R^{b}_{1}, R^{c}_{1}, R^{d}_{1}, R^{e}_{1}, and R^{f}_{1} are hydrogen and R_2 is hydrogen, R_3 is not:



;

when m is 1, R^{a}_{1} is an amino group and R^{b}_{1}, R^{c}_{1}, R^{d}_{1}, R^{e}_{1}, and R^{f}_{1} are hydrogen, or R^{e}_{1} is an amino group and R^{a}_{1}, R^{b}_{1}, R^{c}_{1}, R^{d}_{1}, and R^{f}_{1} are hydrogen and R_2 is hydrogen, R_3 is not:



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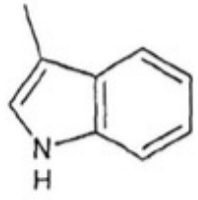
when m is 1, R^{a}_{1}, R^{b}_{1}, R^{c}_{1}, R^{d}_{1}, R^{e}_{1}, and R^{f}_{1} are hydrogen and R_2 is hydrogen, R_3 is not:



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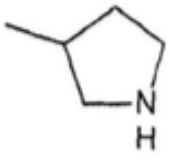
when m is 1, R^{a}_{1}, R^{b}_{1}, R^{c}_{1}, R^{d}_{1}, R^{e}_{1}, and R^{f}_{1} are hydrogen and R_2 is hydrogen, R_3 is not:



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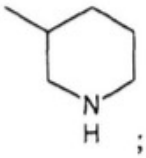
when m is 1, R^{a}_{1}, R^{b}_{1}, R^{c}_{1}, R^{d}_{1}, R^{e}_{1}, and R^{f}_{1} are hydrogen and R_2 is hydrogen, R_3 is not:



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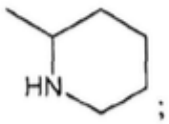
when m is 1, R^{a}_{1}, R^{b}_{1}, R^{c}_{1}, R^{d}_{1}, R^{e}_{1}, and R^{f}_{1} are hydrogen and R_2 is hydrogen, R_3 is not:



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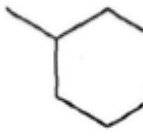
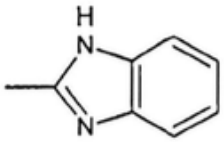
when m is 1, R^{a}_{1}, R^{b}_{1}, R^{c}_{1}, R^{d}_{1}, R^{e}_{1}, and R^{f}_{1} are hydrogen and R_2 is hydrogen, R_3 is not:

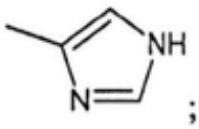


;

when m is 1, R^{a}_{1}, R^{b}_{1}, R^{c}_{1}, R^{d}_{1}, R^{e}_{1}, and R^{f}_{1} are hydrogen and R_2 is hydrogen, R_3 is not:


;

when m is 1, R^{a}_{1}, R^{b}_{1}, R^{c}_{1}, R^{d}_{1}, R^{e}_{1}, and R^{f}_{1} are hydrogen and R_2 is –C(O)OH, R_3 is not: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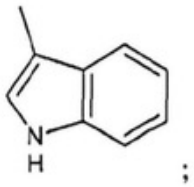
when m is 1, R^{a}_{1}, R^{b}_{1}, R^{c}_{1}, R^{d}_{1}, R^{e}_{1}, and R^{f}_{1} are hydrogen and R_2 is –C(O)OH, R_3 is not: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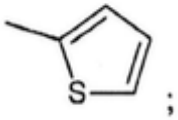
when m is 1, R^{a}_{1}, R^{b}_{1}, R^{c}_{1}, R^{d}_{1}, R^{e}_{1}, and R^{f}_{1} are hydrogen and R_2 is hydrogen, R_3 is not: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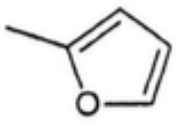
when m is 1, R^{a}_{1}, R^{b}_{1}, R^{c}_{1}, R^{d}_{1}, R^{e}_{1}, and R^{f}_{1} are hydrogen and R_2 is hydrogen, R_3 is not: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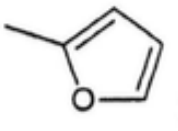
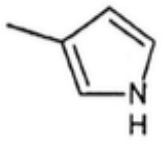
when m is 2, R^{a}_{1}, R^{b}_{1}, R^{c}_{1}, R^{d}_{1}, R^{e}_{1}, and R^{f}_{1} are hydrogen and R_2 is hydrogen, R_3 is not:

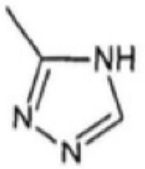

;

when m is 2, R^{a}_{1}, R^{b}_{1}, R^{c}_{1}, R^{d}_{1}, R^{e}_{1}, and R^{f}_{1} are hydrogen and R_2 is hydrogen, R_3 is not:



;

when m is 1, $R^{a}{}_{1}$, $R^{b}{}_{1}$, $R^{c}{}_{1}$, $R^{d}{}_{1}$, $R^{e}{}_{1}$, and $R^{f}{}_{1}$ are hydrogen and R_2 is hydrogen, R_3 is not:



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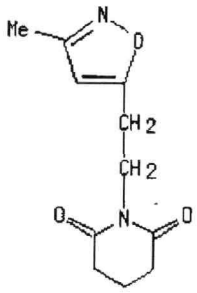
and with a proviso that the compound is not the following compound:



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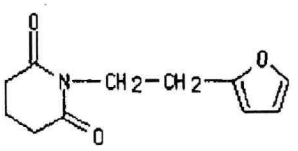

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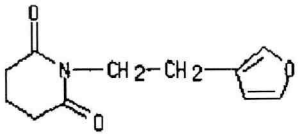

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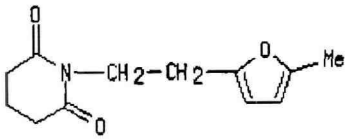

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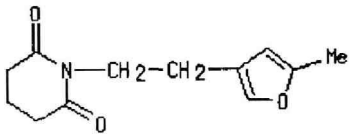

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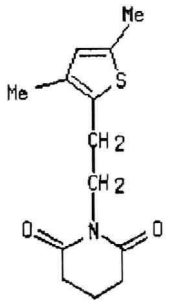
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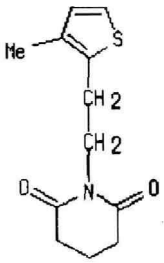
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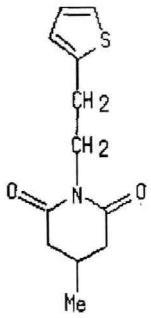
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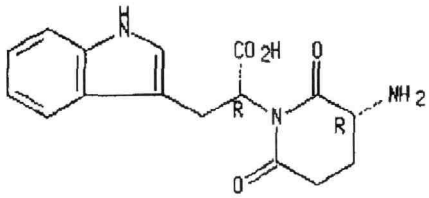
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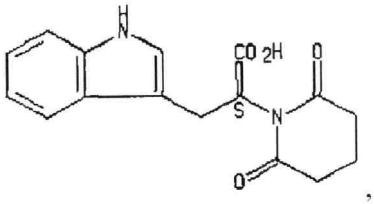
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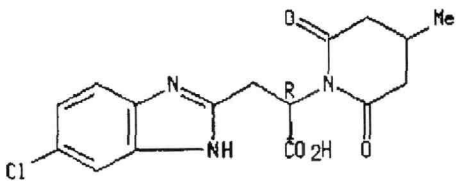
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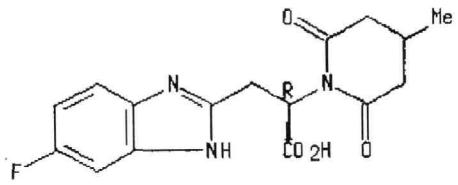

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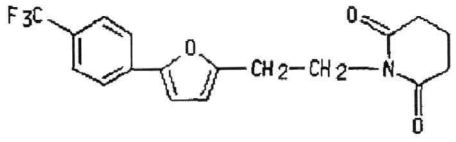

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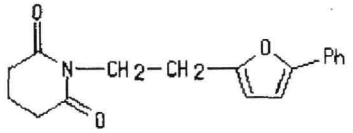

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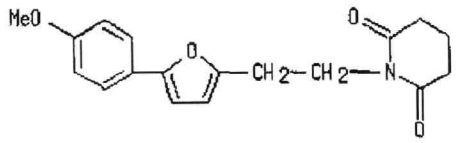

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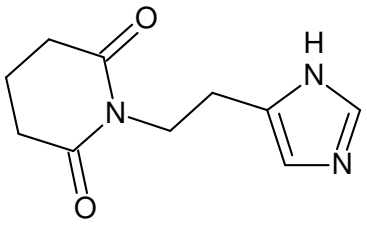

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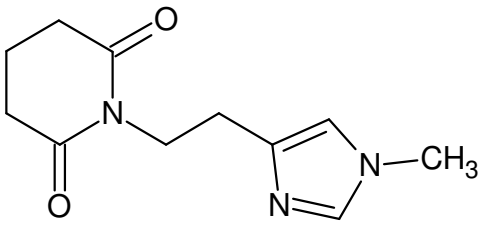

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2. The compound of claim 1, wherein

R^{a}_{1} and R^{b}_{1} are hydrogen, methyl, amino, or hydroxyl;

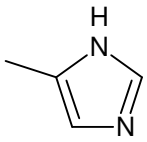
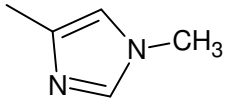
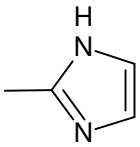
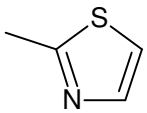
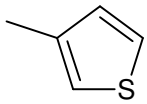
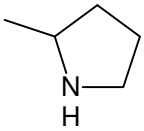
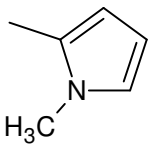
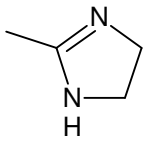
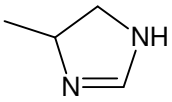
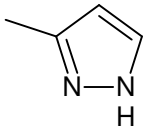
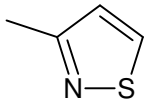
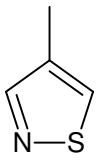
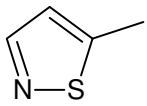
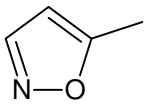
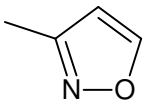
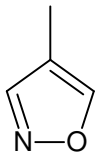
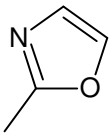
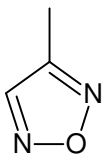
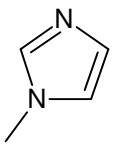
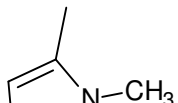
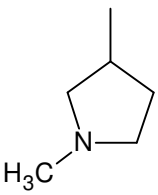
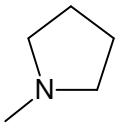
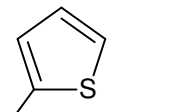
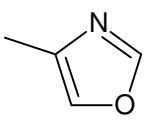
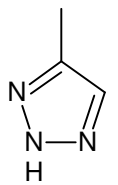
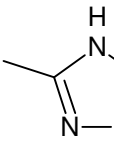
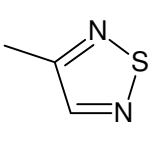
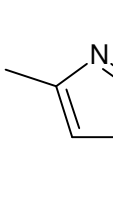
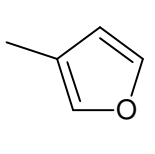
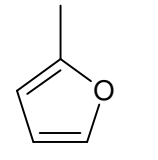
R^{c}_{1} and R^{d}_{1} are hydrogen, methyl, amino, or hydroxyl;

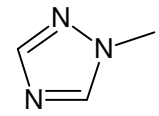
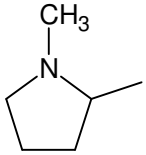
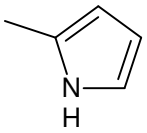
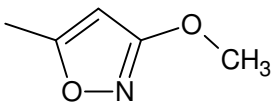
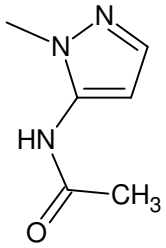
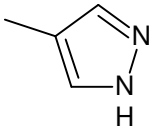
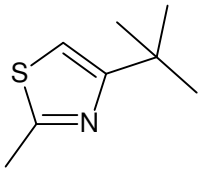
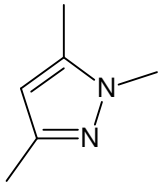
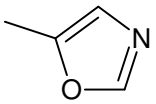
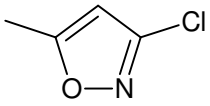
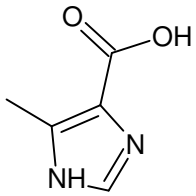
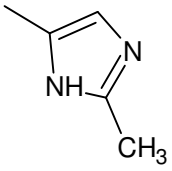
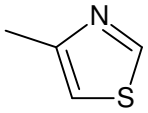
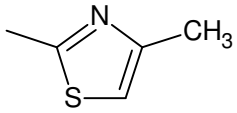
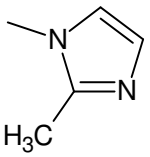
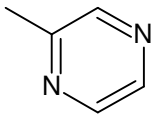
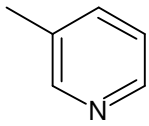
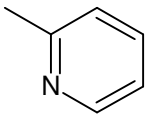
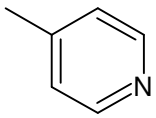
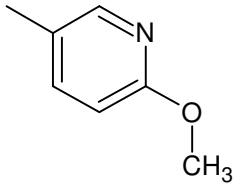
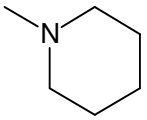
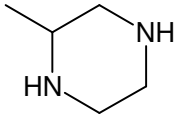
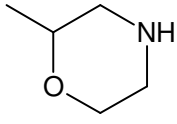
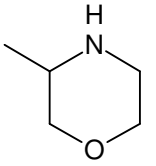
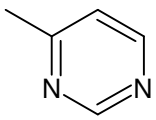
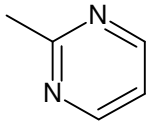
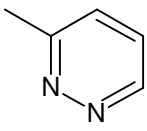
R^{e}_{1} and R^{f}_{1} are hydrogen or methyl;

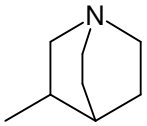
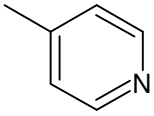
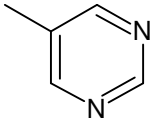
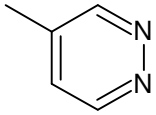
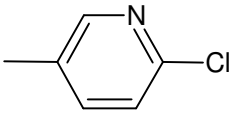
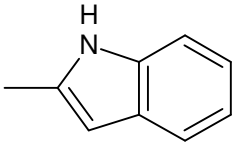
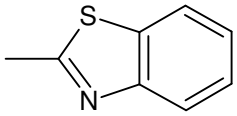
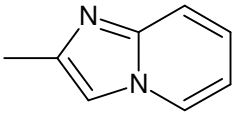
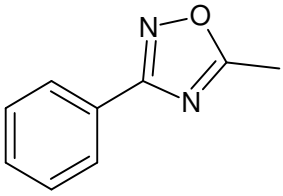
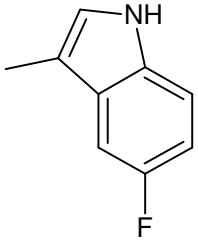
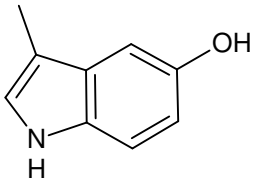
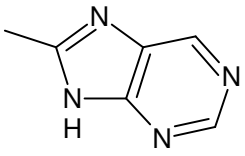
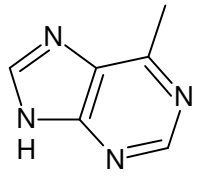
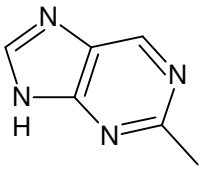
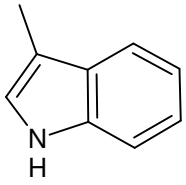
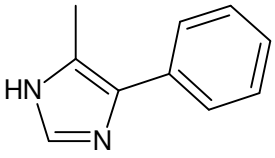
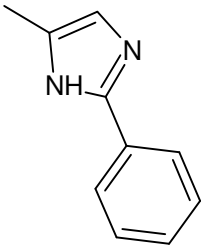
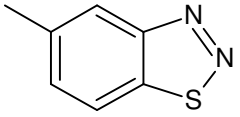
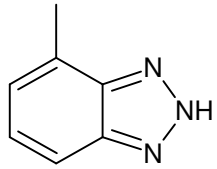
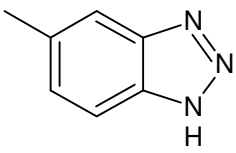
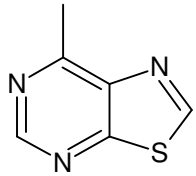
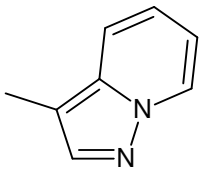
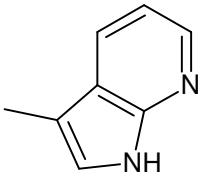
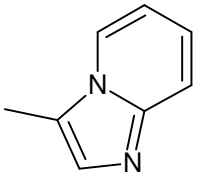
R2 is hydrogen, methyl, carboxyl, methoxycarbonyl, or ethoxycarbonyl;

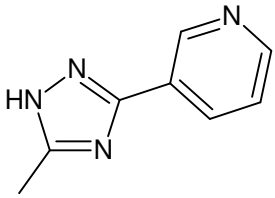
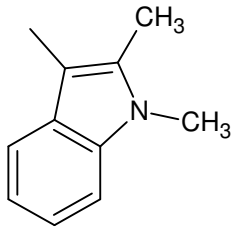
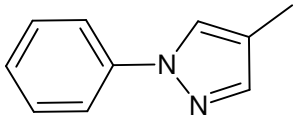
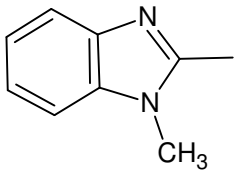
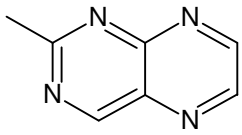
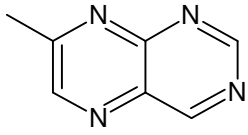
R3 is

a group selected from: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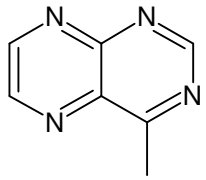
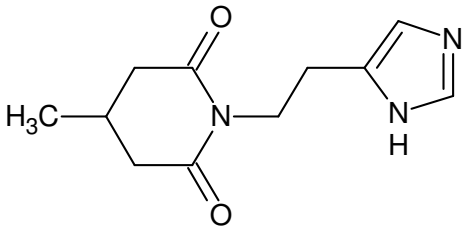
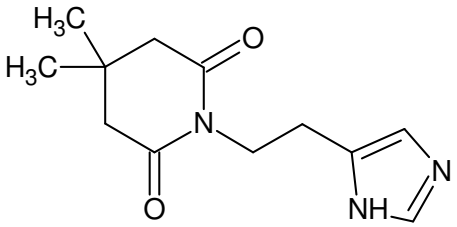
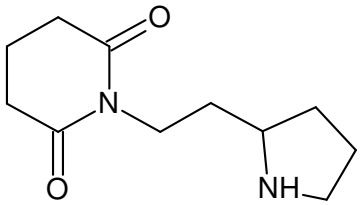
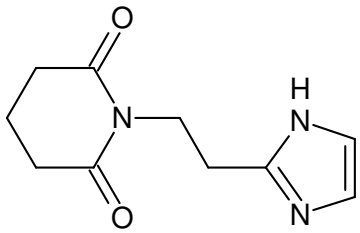
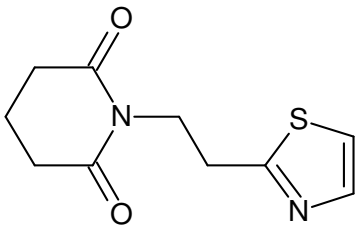
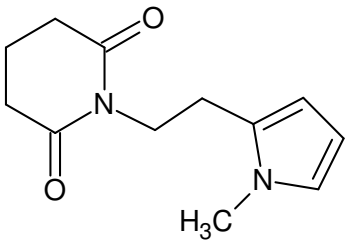


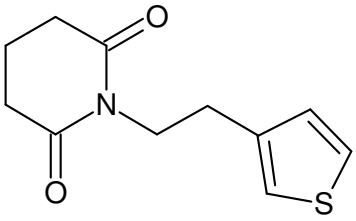
or a pharmaceutically acceptable salt thereof.

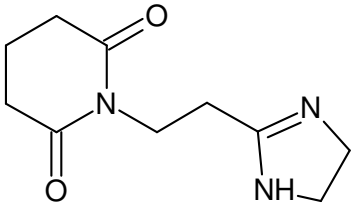
3. The compound of claim 1, which is:

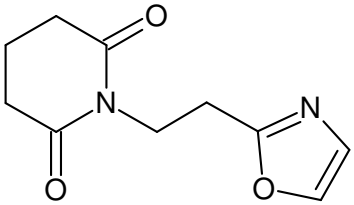





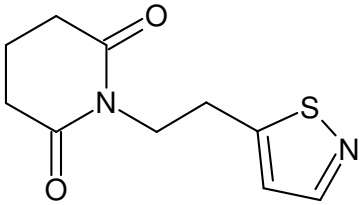


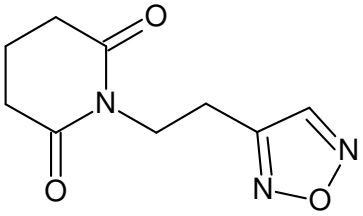


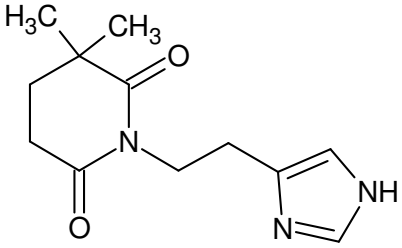


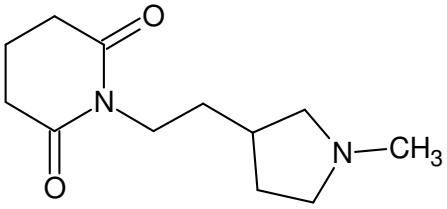


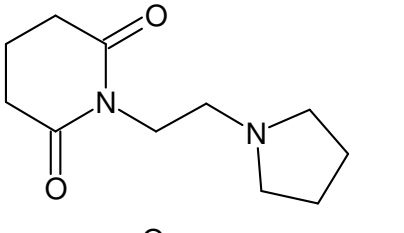


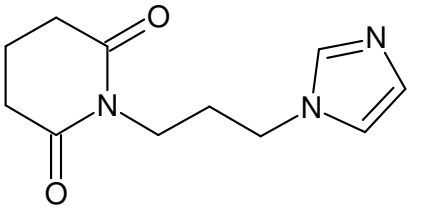


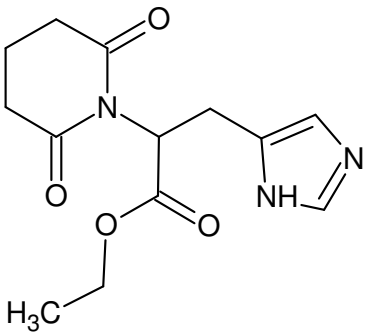


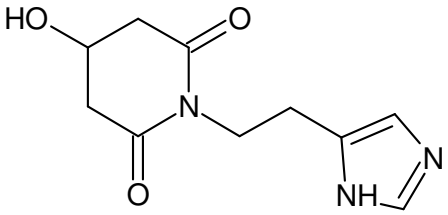


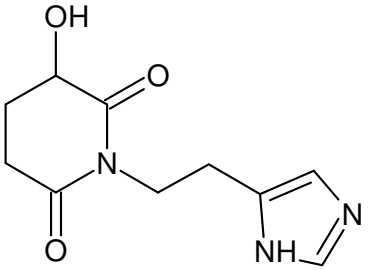


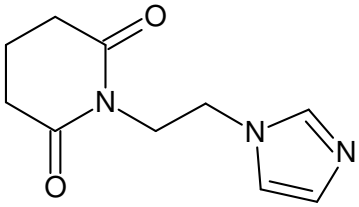


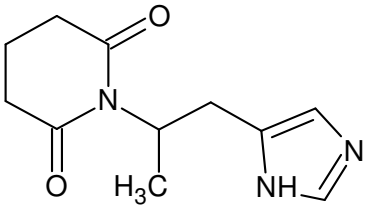


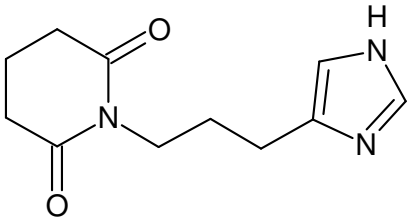


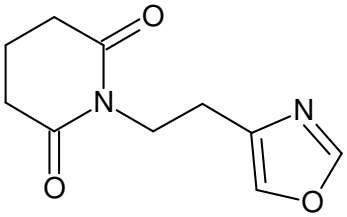


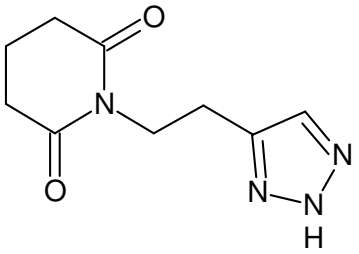


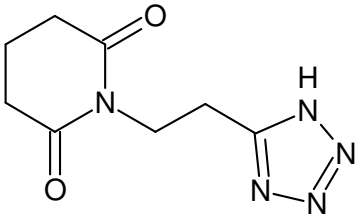


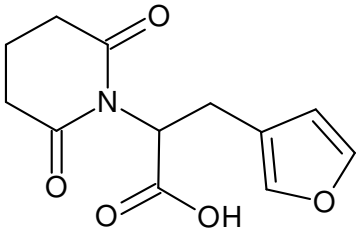


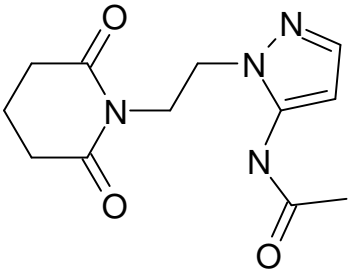


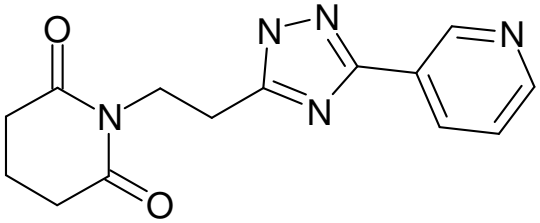


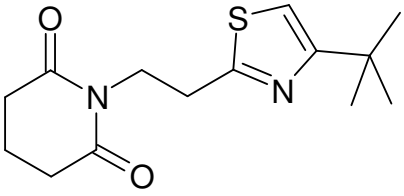


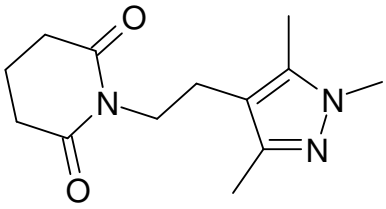


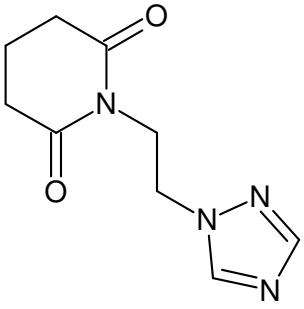


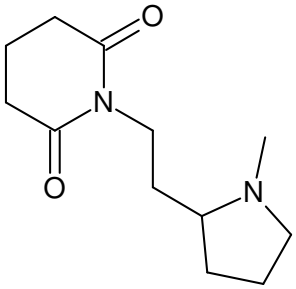


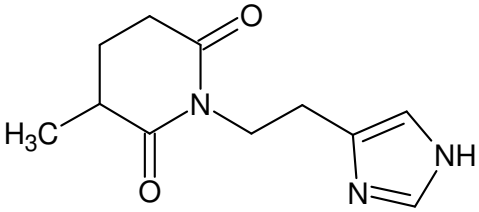


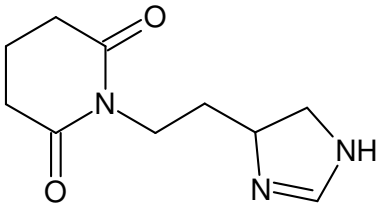


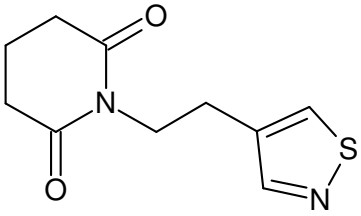


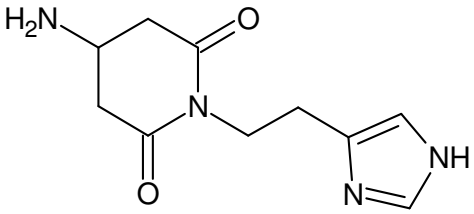


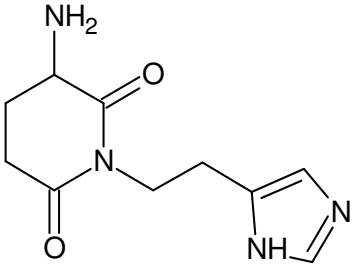


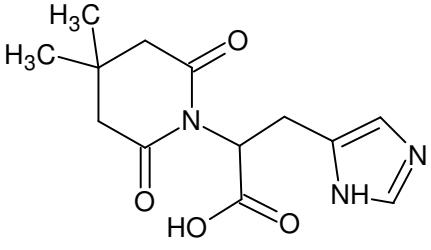


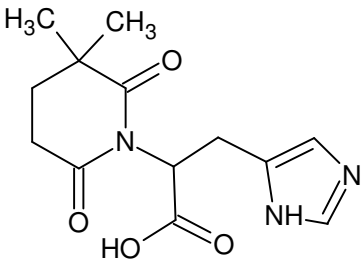


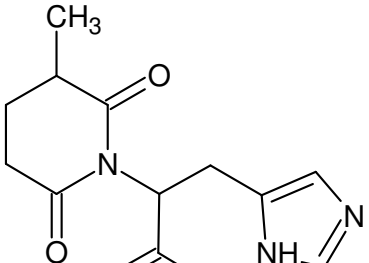


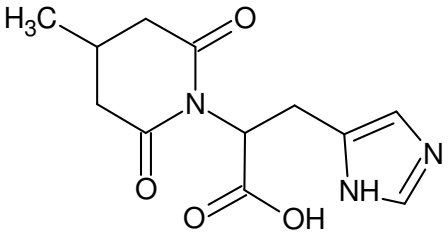


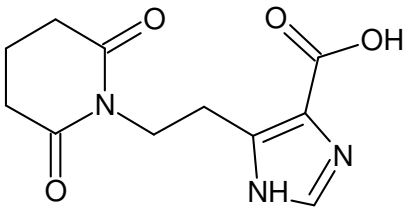


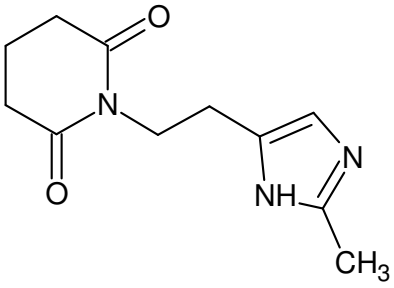


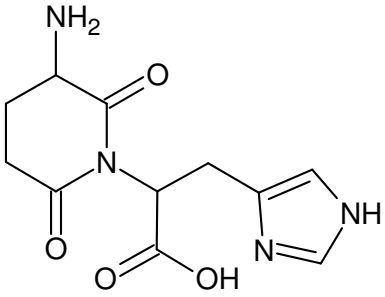


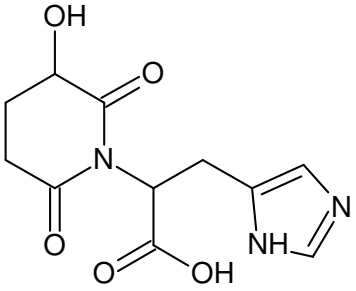


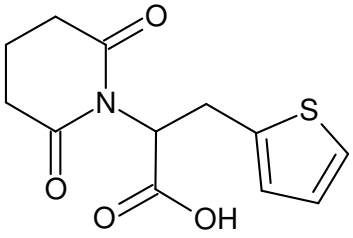


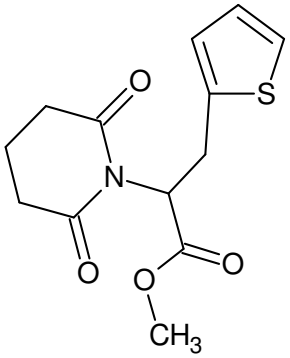


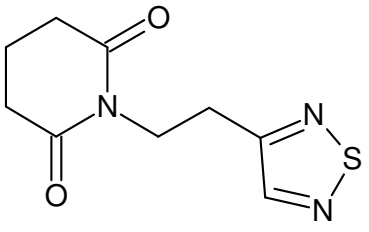


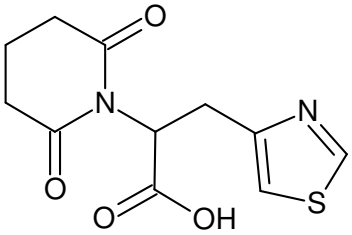


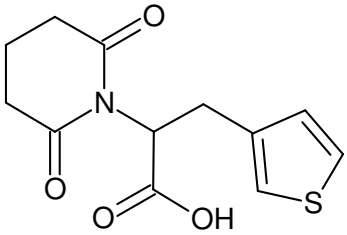


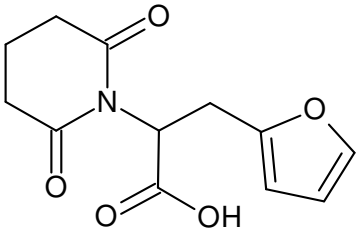


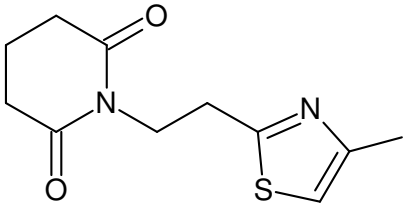


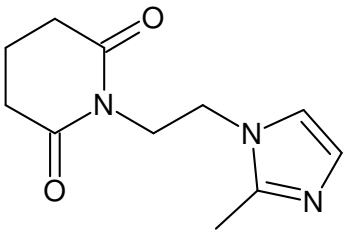


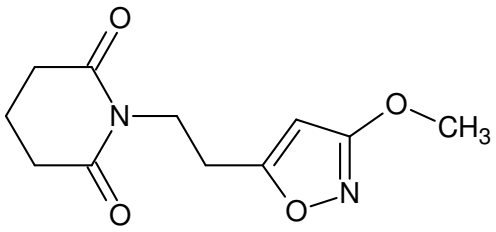


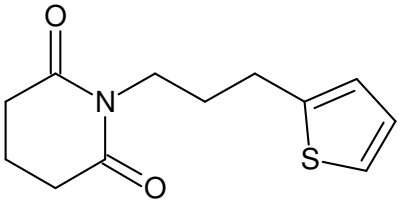


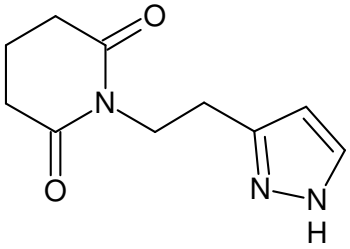


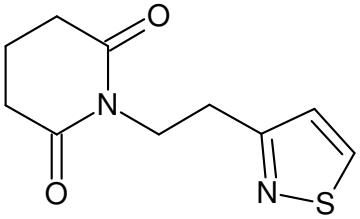


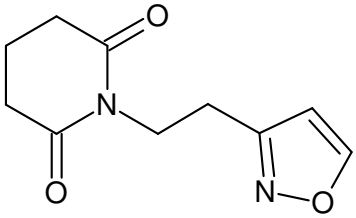


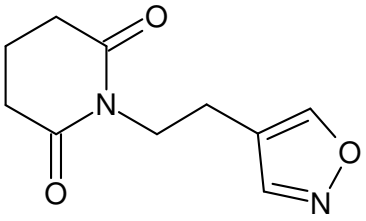


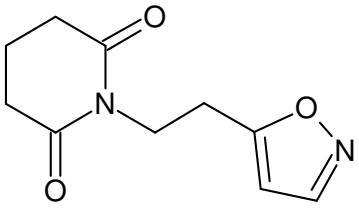


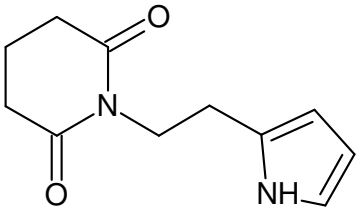


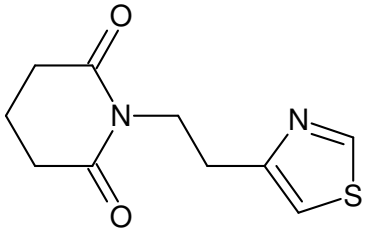


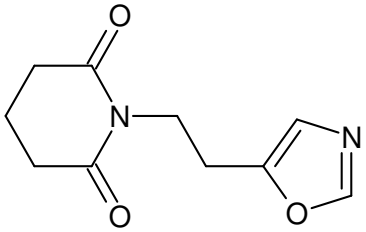


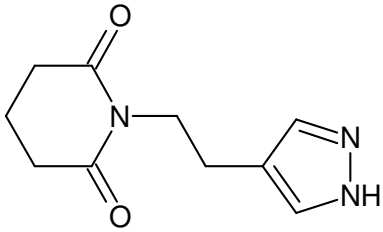


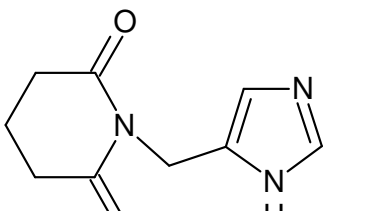


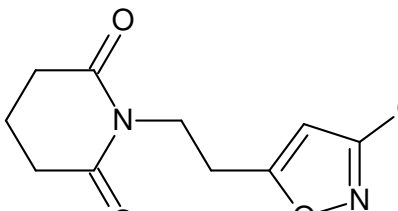


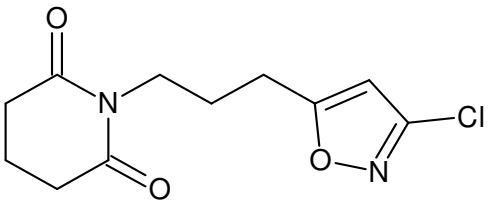


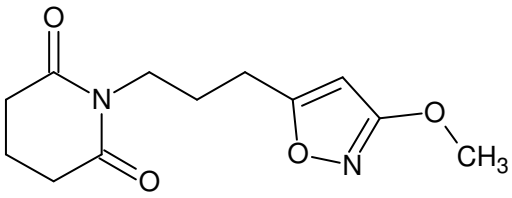


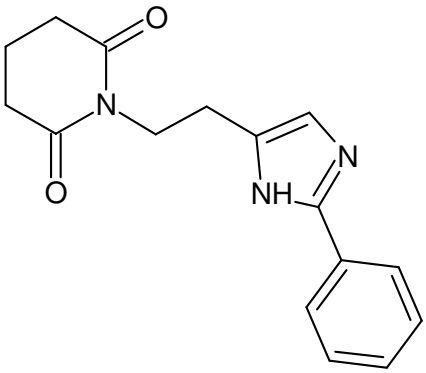


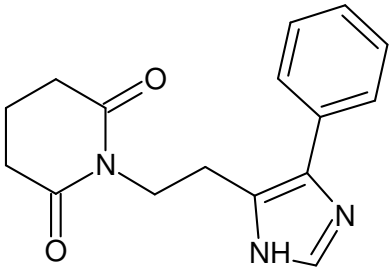


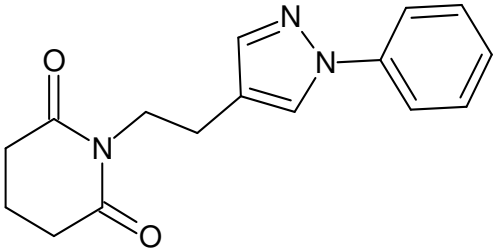


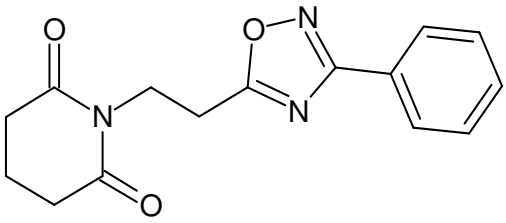


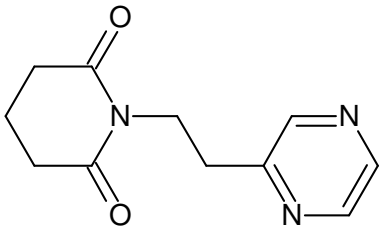


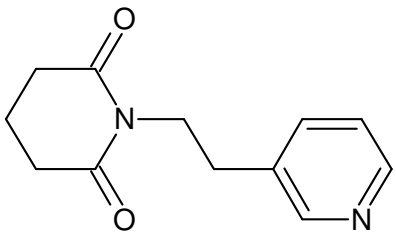


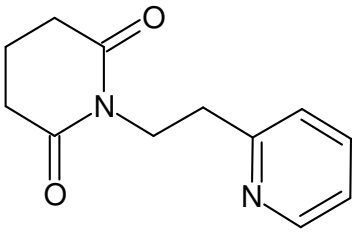


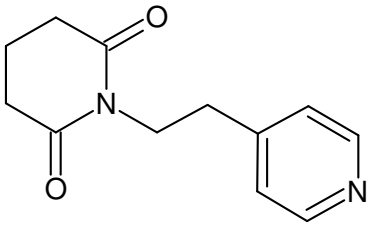


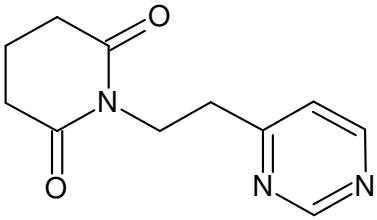


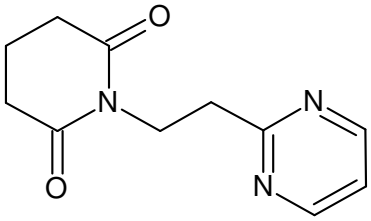


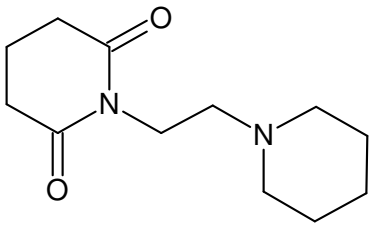


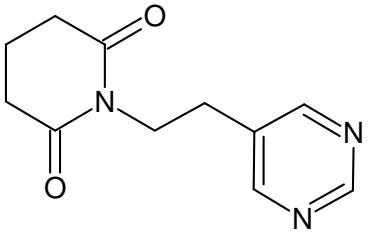


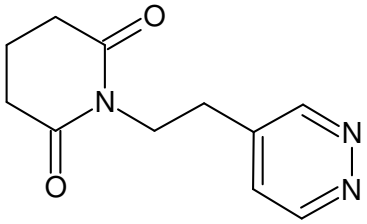


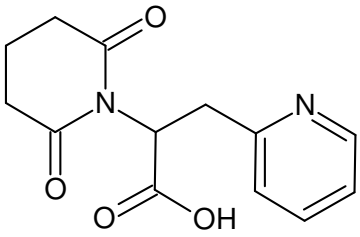


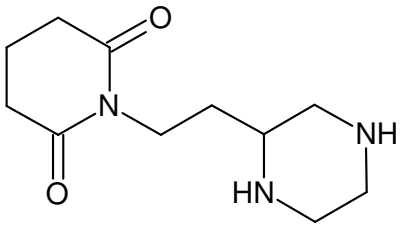


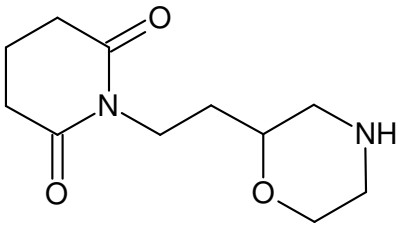


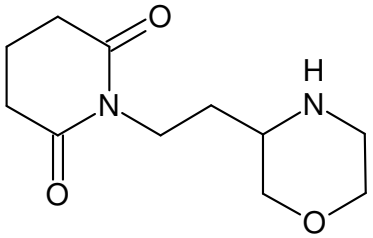


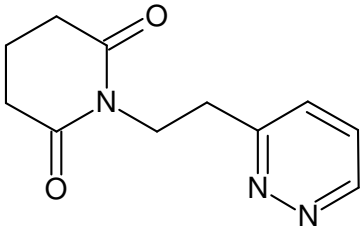


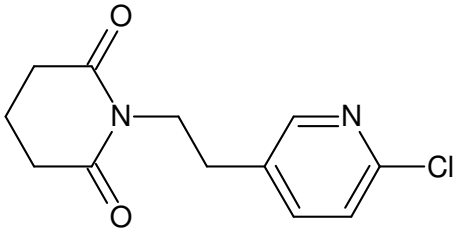


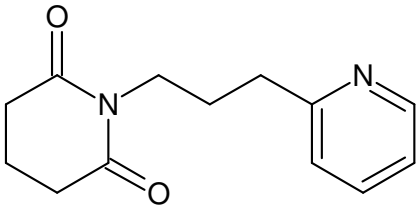


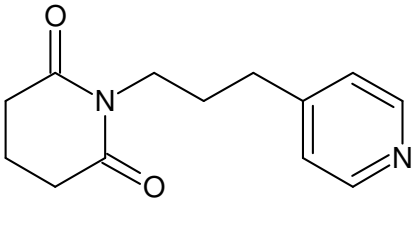


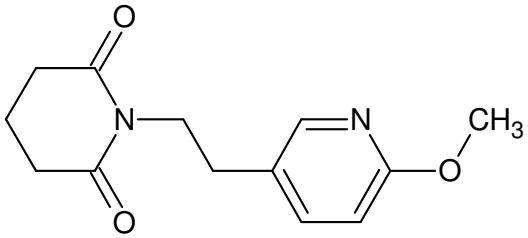


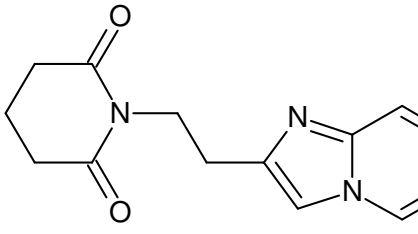


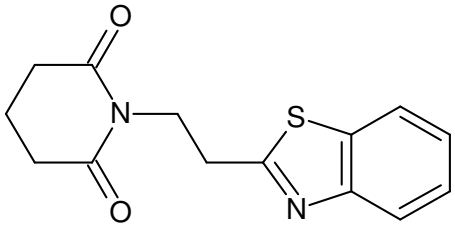


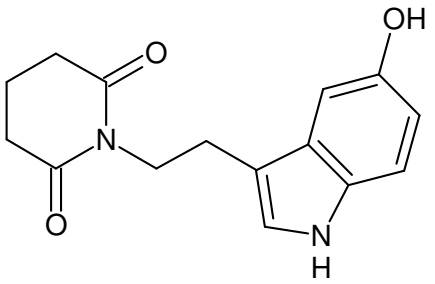
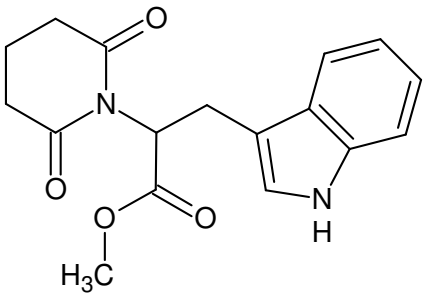
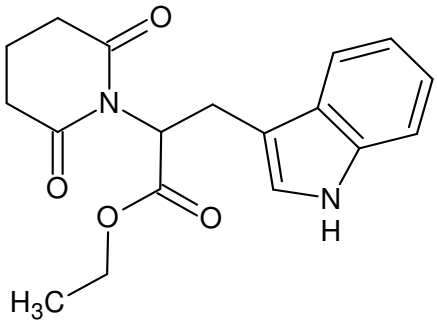
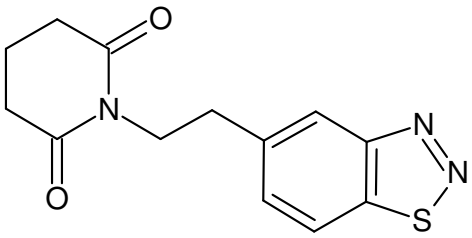
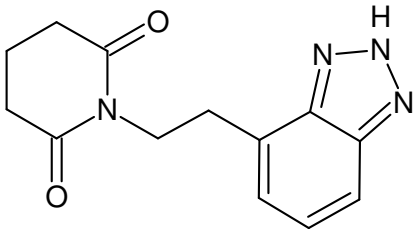
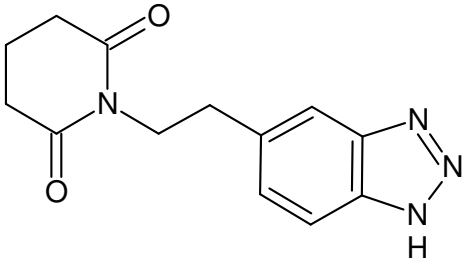
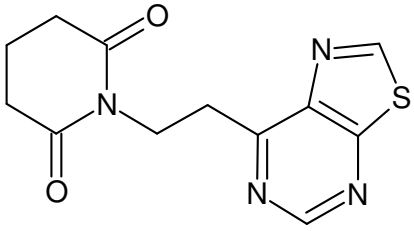
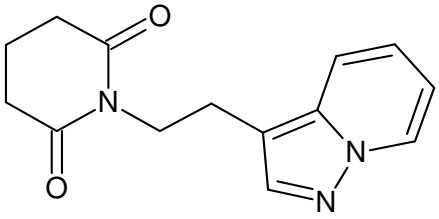
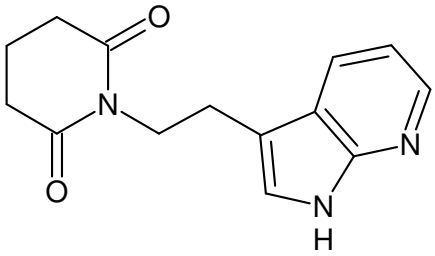
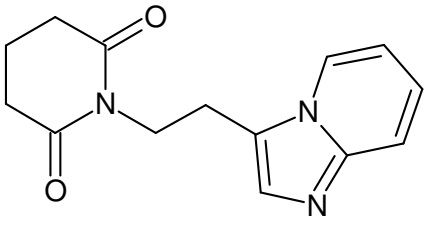
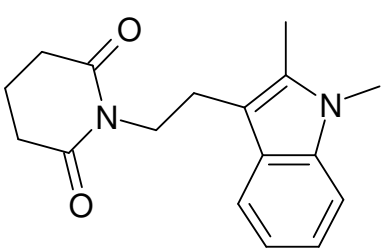
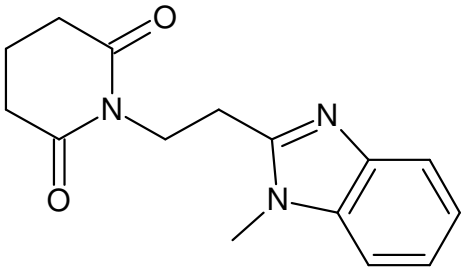


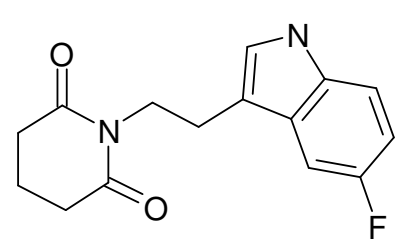


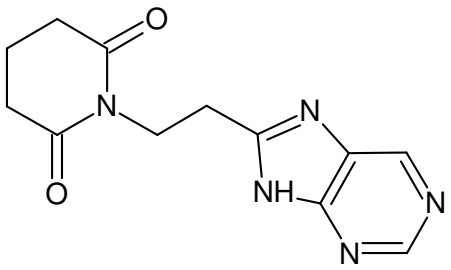


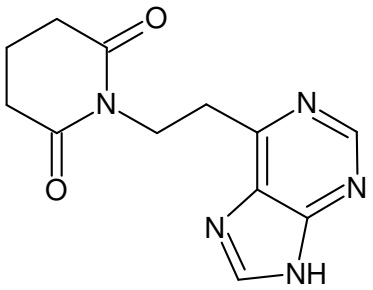


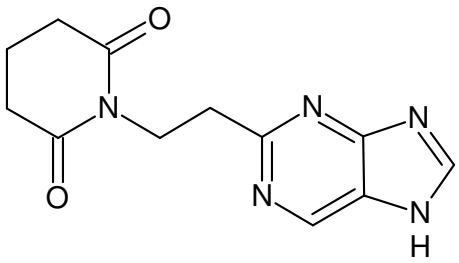


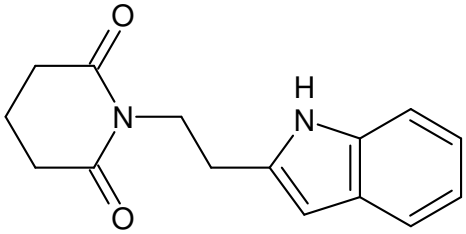













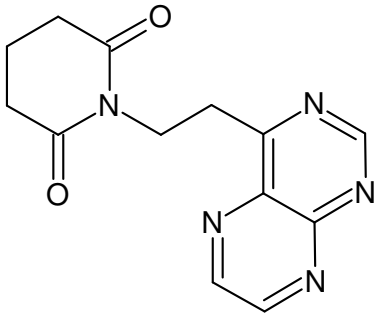


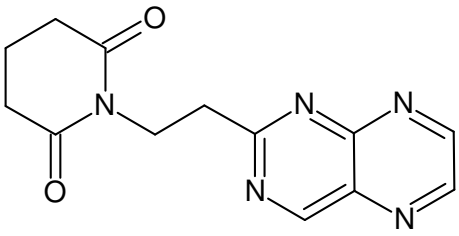


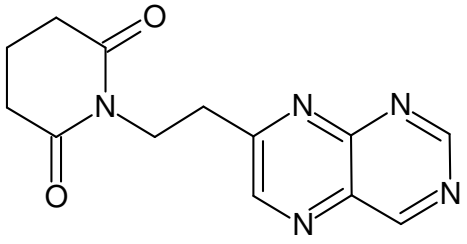




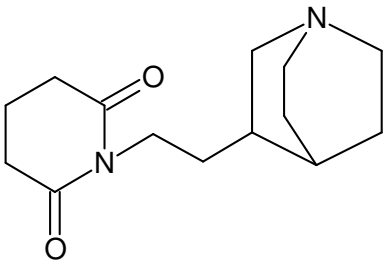








, or



4. Use of the compound according to any one of the preceding claims or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for the treatment of a respiratory tract disease.

5. The use according to claim 4, wherein the respiratory tract disease is rhinosinusitis.

6. The use according to claim 4, wherein the respiratory tract disease is caused by an RNA-comprising virus.

7 The use according to claim 6, wherein the virus is selected from the group consisting of rhinovirus, Coxsackie virus, respiratory syncytial virus, and influenza virus.

8. The use according to claim 4, wherein the disease is exacerbations of asthma, chronic obstructive pulmonary disease, bronchitis and mucoviscidosis, which are caused by rhinovirus, influenza virus and/or respiratory syncytial virus.

9. A pharmaceutical composition for use in the treatment of a respiratory tract disease, comprising an effective amount of a compound as claimed in any one of claims 1 to 3 or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.

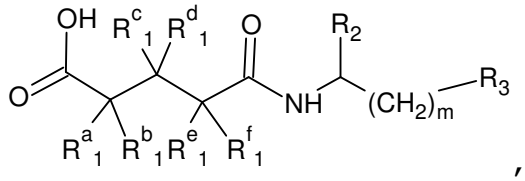
10. The pharmaceutical composition for use of claim 9, wherein the respiratory tract disease is rhinosinusitis.

11. The pharmaceutical composition for use of claim 9, wherein the respiratory tract disease is caused by an RNA-comprising virus.

12. The pharmaceutical composition for use of claim 11, wherein the virus is selected from the group consisting of rhinovirus, Coxsackie virus, respiratory syncytial virus, and influenza.

13. The pharmaceutical composition for use of claim 9, wherein the disease is exacerbations of asthma, chronic obstructive pulmonary disease, bronchitis and mucoviscidosis, which are caused by rhinovirus, influenza virus and/or respiratory syncytial virus.

14. A method for preparing a compound according to claim 1 or a pharmaceutically acceptable salt thereof, comprising heating of dicarboxylic acid monoamide of general formula II



,

wherein

m represents an integer of 0 to 2;

R^{a}_{1}, R^{b}_{1}, R^{c}_{1}, R^{d}_{1}, R^{e}_{1}, and R^{f}_{1}, each independently represents hydrogen, C_1–C_6alkyl; $-NH_2$, $-NHC_1$–C_6alkyl, hydroxyl, or C_1–C_6alkoxy;

R_2 is hydrogen, C_1–C_6alkyl, –C(O)OH, $-C(O)OC_1$–C_6alkyl;

R_3 is:

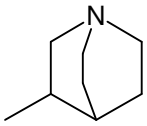
1) a 5-membered saturated or unsaturated heterocyclic group comprising from 1 to 4 heteroatoms selected from N, O and S, optionally substituted with 1 to 3 substituents selected from halogen, C_1–C_6alkyl, C_1–C_6alkoxy, –C(O)OH, $-C(O)OC_1$–C_6alkyl, $-NHC(O)C_1$–C_6alkyl, phenyl, or pyridinyl;

2) a 6-membered saturated or unsaturated heterocyclic group comprising from 1 to 2 heteroatoms selected from N and O, optionally substituted with a group selected from halogen and C_1-C_6alkyl;

3) a 5-membered unsaturated heterocyclic group comprising from 1 to 3 heteroatoms selected from N and S, optionally substituted with 1 or 2 substituents selected from C_1-C_6alkyl, condensed with a 6-membered unsaturated nitrogen-containing cyclic or heterocyclic group optionally substituted with 1 or 2 substituents selected from hydroxyl, halogen or C_1-C_6alkyl;

4) a 6-membered unsaturated cyclic or heterocyclic group comprising from 1 to 2 nitrogen atoms, condensed with a 5- or 6-membered unsaturated heterocyclic group comprising from 1 to 3 heteroatoms selected from N and S; or

5) a group of the formula:



with a dehydrating agent in an organic solvent.

15. The method of claim 14, wherein the dehydrating agent is glutaric anhydride, and the method is performed under heating in an organic solvent, preferably in dimethylformamide.

16. The method of claim 14, wherein the dehydrating agent is propionic anhydride, and the method is performed under heating in an organic solvent, preferably in toluene.

17. The method of claim 16, wherein the method is performed with addition of sodium acetate.

18. The method of claim 14, wherein the dehydrating agent is acetic anhydride, and the method is performed under heating in an organic solvent, preferably in dioxane.

19. The method of claim 18, wherein the method is performed with addition of sodium acetate.

20. The method of claim 14, wherein the dehydrating agent is acetic acid chloroanhydride, and the method is performed under heating in an organic solvent, preferably in acetic acid.

21. The method of claim 14, wherein the dehydrating agent and the solvent are acetic acid anhydride, and the method is performed at 90–100°C.

22. The method of claim 14, wherein the dehydrating agent is carbonyldiimidazole.