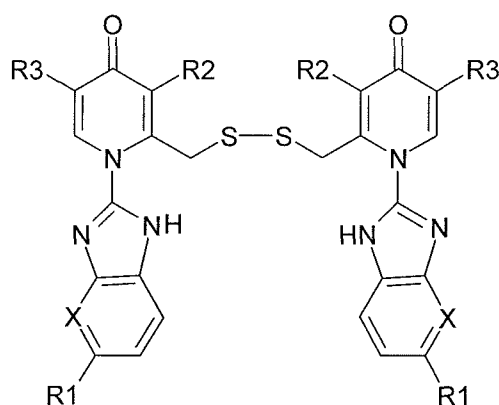


Claims:

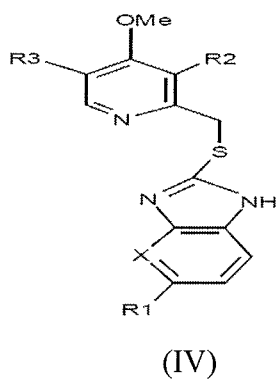
1. Pyridone disulfide derivatives and its stereoisomers of formula (I)



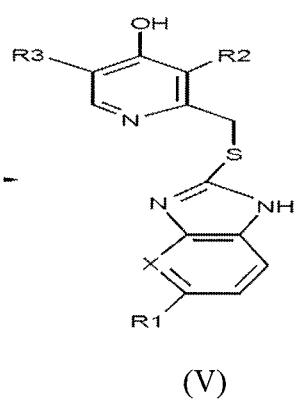
(I)

wherein, R_1 , R_2 and R_3 are independently alkyl, alkoxy, halogen, halogenated alkoxy, halogenated alkyl, hydrogen and could be same or different and X is CH or N.

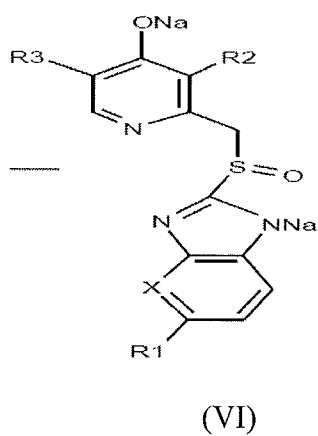
2. Pyridone disulfide derivatives of formula (I) according to claim 1, wherein R_1 is selected from the group comprising of methyl, methoxy, fluorine, trifluoromethyl, difluoromethoxy and hydrogen.
3. Pyridone disulfide derivatives of formula (I) according to claim 1, wherein R_2 is selected from the group comprising of methyl, methoxy and hydrogen.
4. Pyridone disulfide derivatives of formula (I) according to claim 1, wherein R_3 is selected from the group comprising of methyl and hydrogen.
5. A process for preparation of pyridone disulfide derivatives and its stereoisomers of formula (I) as claimed in claim 1, the process comprising:
 - (i) treating a compound of the following formula (IV)



with a dealkylating agent to give a compound of the following formula (V),



(ii) oxidizing the compound of formula (V) with an oxidizing agent to give a compound of the following formula (VI),



and

(iii) treating the compound of formula (VI) with an acid in presence of a solvent, in the pH range of 4.5 to 8.5, to obtain the compound of formula (I).

6. The process according to claim 5, wherein the dealkylating agent is selected from the group comprising of sodium sulfide, hydrobromic acid and aluminium chloride.

7. The process according to claim 5, wherein the oxidizing agent is selected from 10-camphorsulfonyl oxaziridine or its stereoisomers and sodium hypochlorite.

8. The process according to claim 5, wherein the compound of formula (I) is obtained by treating the compound of formula (VI) with an acid selected from the group consisting of an organic acid, such as acetic acid, citric acid, propionic acid and lactic acid or a mineral acid such as hydrochloric acid, sulphuric acid and nitric acid, and the solvent is selected from the group consisting of esters, alcohols, ketones, hydrocarbons, halogenated hydrocarbons, water and mixtures thereof.

9. A pharmaceutical composition comprising an active pharmaceutical ingredient as claimed in claim 1 along with acceptable pharmaceutical excipients for use in the treatment of gastrointestinal disorders.

10. Use of a pharmaceutical composition comprising an active pharmaceutical ingredient as claimed in claim 1 along with acceptable pharmaceutical excipients in the manufacture of a medicament for the treatment of gastrointestinal disorders selected from the group consisting of gastroesophageal reflux disorder, peptic ulcer and heartburn arising out of excessive secretion of acidic gastric fluids.

11. Pyridone disulfide derivative of formula (I) according to claim 1, wherein the pyridone disulfide derivative is a compound selected from the group consisting of:

1-(5-(difluoromethoxy)-1H-benzo[d]imidazol-2-yl)-2-((2-((1-(5-(difluoromethoxy)-1H-benzo[d]imidazol-2-yl)-1,4-dihydro-3-methoxy-4-oxopyridin-2-yl)methyl)disulfinyl)methyl)-3-methoxypyridin-4(1H)-one (compound I-A-11);

2-((2-((1-(1H-benzo[d]imidazol-2-yl)-1,4-dihydro-4-oxopyridin-2-yl)methyl)disulfinyl)methyl)-1-(1H-benzo[d]imidazol-2-yl)pyridin-4(1H)-one (compound I-A-1);

2-((2-((1-(1H-benzo[d]imidazol-2-yl)-1,4-dihydro-3,5-dimethyl-4-oxopyridin-2-yl)methyl)disulfinyl)methyl)-1-(1H-benzo[d]imidazol-2-yl)-3,5-dimethylpyridin-4(1H)-one (compound I-A-2);

2-((2-((1-(1H-benzo[d]imidazol-2-yl)-1,4-dihydro-3-methoxy-4-oxopyridin-2-yl)methyl)disulfinyl)methyl)-1-(1H-benzo[d]imidazol-2-yl)-3-methoxypyridin-4(1H)-one (compound I-A-3);

2-((2-((1,4-dihydro-3,5-dimethyl-1-(5-methyl-1H-benzo[d]imidazol-2-yl)-4-oxopyridin-2-yl)methyl)disulfinyl)methyl)-3,5-dimethyl-1-(5-methyl-1H-benzo[d]imidazol-2-yl)pyridin-4(1H)-one (compound I-A-4);

2-((2-((1,4-dihydro-3-methoxy-1-(5-methyl-1H-benzo[d]imidazol-2-yl)-4-oxopyridin-2-yl)methyl)disulfinyl)methyl)-3-methoxy-1-(5-methyl-1H-benzo[d]imidazol-2-yl)pyridin-4(1H)-one (compound I-A-5);

2-((2-((1,4-dihydro-1-(5-methoxy-1H-benzo[d]imidazol-2-yl)-3,5-dimethyl-4-oxopyridin-2-yl)methyl)disulfinyl)methyl)-1-(5-methoxy-1H-benzo[d]imidazol-2-yl)-3,5-dimethylpyridin-4(1H)-one (compound I-A-6);

2-((2-((1,4-dihydro-3-methoxy-1-(5-methoxy-1H-benzo[d]imidazol-2-yl)-4-oxopyridin-2-yl)methyl)disulfinyl)methyl)-3-methoxy-1-(5-methoxy-1H-benzo[d]imidazol-2-yl)pyridin-4(1H)-one (compound I-A-7);

1-(5-fluoro-1H-benzo[d]imidazol-2-yl)-2-((2-((1-(5-fluoro-1H-benzo[d]imidazol-2-yl)-1,4-dihydro-3,5-dimethyl-4-oxopyridin-2-yl)methyl)disulfinyl)methyl)-3,5-dimethylpyridin-4(1H)-one (compound I-A-8);

1-(5-(trifluoromethyl)-1H-benzo[d]imidazol-2-yl)-2-((2-((1-(5-(trifluoromethyl)-1H-benzo[d]imidazol-2-yl)-1,4-dihydro-3-methoxy-4-oxopyridin-2-yl)methyl)disulfinyl)methyl)-3-methoxypyridin-4(1H)-one (compound I-A-9);

1-(5-(difluoromethoxy)-1H-benzo[d]imidazol-2-yl)-2-((2-((1-(5-(difluoromethoxy)-1H-benzo[d]imidazol-2-yl)-1,4-dihydro-3,5-dimethyl-4-oxopyridin-2-yl)methyl)disulfinyl)methyl)-3,5-dimethylpyridin-4(1H)-one (compound I-A-10);

2-((2-((1,4-dihydro-1-(1H-imidazo[4,5-b]pyridin-2-yl)-3,5-dimethyl-4-oxopyridin-2-yl)methyl)disulfinyl)methyl)-1-(1H-imidazo[4,5-b]pyridin-2-yl)-3,5-dimethylpyridin-4(1H)-one (compound I-B-1);

2-((2-((1,4-dihydro-3-methoxy-1-(5-methoxy-1H-imidazo[4,5-b]pyridin-2-yl)-4-oxopyridin-2-yl)methyl)disulfinyl)methyl)-3-methoxy-1-(5-methoxy-1H-imidazo[4,5-b]pyridin-2-yl)pyridin-4(1H)-one (compound I-B-2);

2-((2-((1,4-dihydro-1-(5-methoxy-1H-imidazo[4,5-b]pyridin-2-yl)-3,5-dimethyl-4-oxopyridin-2-yl)methyl)disulfinyl)methyl)-1-(5-methoxy-1H-imidazo[4,5-b]pyridin-2-yl)-3,5-dimethylpyridin-4(1H)-one (compound I-B-3);

and pharmaceutically acceptable salts thereof.