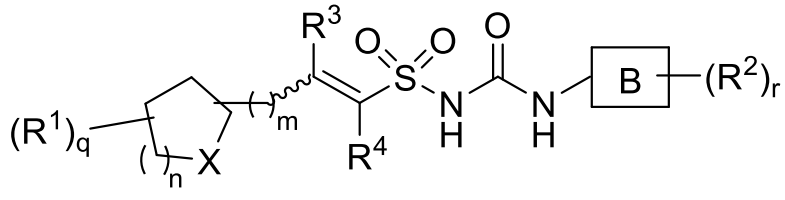
We claim:

1. Compound having the structure of general formula (**I**)



Formula (I)

their tautomeric forms, their stereoisomers, their enantiomers, their pharmaceutically acceptable salts, and pharmaceutical compositions containing them wherein,

R^1 at each occurrence is independently selected from hydrogen, halogen, haloalkyl, cyano, optionally substituted groups selected from (C_1-C_6)alkyl, (C_1-C_6)haloalkyl, (C_2-C_6)alkenyl, (C_1-C_6)alkoxy, (C_3-C_7)cycloalkyl, NH_2, NH(C_1-C_6)alkyl, N(C_3-C_7)cycloalkyl, N(C_1-C_6 alkyl)$_2$, aryl, heteroaryl, heterocyclyl, benzyl, thiol, mercapto alkyl, SO_2(C_1-C_6)alkyl, (C_1-C_6)thio-alkoxy, amide;

X is N-R^5; O, S, SO_2;

R^5 at each occurrence is independently selected from hydrogen, halogen, haloalkyl, cyano, optionally substituted groups selected from (C_1-C_6)alkyl, (C_1-C_6)haloalkyl, (C_2-C_6)alkenyl, (C_2-C_6)alkynyl, (C_1-C_6)alkoxy, (C_3-C_7)cycloalkyl, (C_1-C_6)alkylSO_2(C_1-C_6)alkyl, (C_1-C_6)alkylN(C_1-C_6)alkyl, (C_1-C_6)alkylN(C_3-C_7)cycloalkyl, aryl, heteroaryl, heterocyclyl, benzyl, tert-butyloxycarbonyl, thiol, mercaptoalkyl, SO_2(C_1-C_6)alkyl, SO_2(C_3-C_7)cycloalkyl, SO_2-aryl, SO_2-heterocyclyl, (C_1-C_6)thioalkyl, (C_1-C_6)thioalkoxy, (C_1-C_6)alkylSO_2NH_2, -$CONH_2$, -CO(C_1-C_6)alkyl, -CO(C_1-C_6)haloalkyl, -CO-aryl, -CO-heteroaryl, -CO-heterocyclyl, 4- to 7-membered heterocyclic ring, 7- to 14-membered bicyclic heterocyclic ring system, bridged or spiro ring system having optionally one or more than one heteroatoms;

m and n is independently selected from integer 0-3;

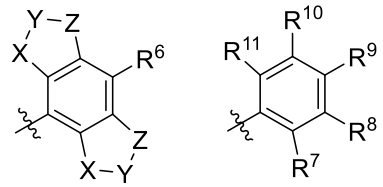
q ~~and r~~ is independently selected from integer 1-4;

<u>r is 1;</u>

R^2 is ~~at each occurrence is independently selected from~~ hydrogen~~, halogen, cyano, optionally substituted groups selected from (C_1-C_6)alkyl, (C_2-C_6)alkenyl, (C_1-C_6)alkoxy, (C_3-C_7)cycloalkyl, benzyl, aryl, heteroaryl, heterocyclyl, thiol, thioalkyl, , thio-alkoxy, SO_2(C_1-C_6)alkyl, SO(C_1-C_6)alkyl, bridged or spiro ring system having optionally one or more than one heteroatoms~~;

Each of R^3 and R^4 at each occurrence is independently selected from hydrogen, halogen, haloalkyl, cyano, nitro, amide, sulphonamide, acyl, hydroxyl, optionally substituted groups selected from (C_1-C_6)alkyl, (C_1-C_6)haloalkyl, (C_3-C_6)cycloalkyl, (C_1-C_6)alkoxy, SO_2(C_1-C_6)alkyl, thiol, mercapto alkyl, benzyl, aryl, heteroaryl, heterocyclyl; Alternatively R_3 and R_4 forms a bond;

'-B-(R^2)$_r$' is selected from the following ring system



wherein X, Y, Z at each occurrence is independently selected from C, N, S, SO_2 and O, which may, wherever possible be optionally substituted.

Each of R^6, R^7, R^8, R^9, R^{10} and R^{11} at each occurrence are independently selected from hydrogen, halogen, cyano, amide, sulphonamide, acyl, hydroxyl, optionally substituted groups selected from (C_1-C_6)alkyl, (C_1-C_6)haloalkyl, (C_3-C_6)cycloalkyl, (C_1-C_6)alkoxy, benzyl, aryl, heteroaryl, heterocyclyl; Alternatively each of R^7 and R^8, R^8 and R^9, R^9 and R^{10} or R^{10} and R^{11} wherever possible, together may form a 4 to 7 membered saturated or partially saturated ring containing from 0-2 additional heteroatoms selected from the group consisting of N, O, and $S(O)_p$; p = 1-2, wherein R^6 or at least one of R^7, R^8, R^9, R^{10} and R^{11} is hydrogen.

2. The compound as claimed in claim 1, wherein R1 at each occurrence is selected from hydrogen, halogen, haloalkyl, optionally substituted groups selected from (C1-C6)alkyl.

~~**3.** The compound as claimed in claim 1, wherein R2 at each occurrence is selected from hydrogen, halogen, haloalkyl optionally substituted groups selected from (C1-C6)alkyl.~~

~~4.~~**3.** The compound as claimed in claim 1, wherein R^3 and R^4 at each occurrence is independently selected from hydrogen, halogen, haloalkyl, optionally substituted groups selected from $(C_1\text{-}C_6)$alkyl.

~~5.~~**4.** The compound as claimed in claim 1, wherein each of R^6, R^7, R^8, R^9, R^{10} and R^{11} at each occurrence is independently selected from hydrogen, halogen optionally substituted groups selected from $(C_1\text{-}C_6)$alkyl, $(C_1\text{-}C_6)$haloalkyl, wherein R^6 or at least one of R^7, R^8, R^9, R^{10} and R^{11} is hydrogen.

~~6.~~**5.** The compound as claimed in any preceding claim, wherein when any of the above group is substituted, the substitutions are selected from hydrogen, hydroxy, cyano, halo, haloalkyl, haloalkyloxy, alkylthio $(C_1\text{-}C_6)$alkyl, $(C_2\text{-}C_6)$alkenyl, $(C_2\text{-}C_6)$alkynyl, $(C_3\text{-}C_7)$cycloalkyl, $C_1\text{-}C_6$ alkoxy, aryl, heterocyclyl, heteroaryl, $-COR_{12}$, $-CSR_{12}$, $C(O)OR_{12}$, $C(O)\text{-}R_{12}$, $-C(O)\text{-}NR_{12}R_{13}$, $-C(S)\text{-}NR_{12}R_{13}$, $-SO_2R_{12}$ group, wherein each of R_{12} and R_{13} is independently selected from hydrogen, optionally substituted group selected from $(C_1\text{-}C_6)$alkyl, $(C_2\text{-}C_6)$alkenyl, $(C_2\text{-}C_6)$alkynyl, $(C_3\text{-}C_7)$cycloalkyl, aryl, heteroaryl, heterocyclyl groups.~~;~~

~~7.~~**6.** A compound as claimed in claim 1 selected from the group comprising of:

(R,E)-2-(1-ethylpyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-ethanesulfonamide;

(S,E)-2-(1-ethylpyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-ethanesulfonamide;

(R,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(pyrrolidin-2-yl)ethene-1-sulfonamide;

(R,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-propylpyrrolidin-2-yl)ethene-1-sulfonamide;

(R,E)-2-(1-(cyclopropylmethyl)pyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-1-sulfonamide;

(R,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-methylpyrrolidin-2-yl)ethene-1-sulfonamide;

(R,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-(methylsulfonyl)-pyrrolidin-2-yl)ethene-1-sulfonamide;

(R,E)-2-(1-acetylpyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-ethene-1-sulfonamide;

(E)-2-(1-benzylpiperidin-4-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-ethanesulfonamide;

tert-butyl(R,E)-2-(2-(N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl) sulfamoyl)-vinyl)pyrrolidine-1-carboxylate;

(R,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-(2-methoxyethyl)pyrrolidin-2-yl)ethenesulfonamide;

(R,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-(isopropylsulfonyl)pyrrolidin-2-yl)ethenesulfonamide;

(R,E)-2-(1-((3-fluorophenyl)sulfonyl)pyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethenesulfonamide;

(R,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-(pyrazine-2-carbonyl)pyrrolidin-2-yl)ethenesulfonamide;

(R,E)-2-(2-(N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)sulfamoyl)vinyl)pyrrolidine-1-carboxamide;

(R,E)-2-(1-(cyclopropanecarbonyl)pyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-1-sulfonamide;

(R,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-(2,2,2-trifluoroacetyl)pyrrolidin-2-yl)ethene-1-sulfonamide;

(R,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-(2-(methylthio)ethyl)pyrrolidin-2-yl)ethene-1-sulfonamide;

(R,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-(2,2,2-trifluoroethyl)pyrrolidin-2-yl)ethene-1-sulfonamide;

(R,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-isobutylpyrrolidin-2-yl)ethene-1-sulfonamide;

(R,E)-2-(1-(ethylsulfonyl)pyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-1-sulfonamide;

(R,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-isopropylpyrrolidin-2-yl)ethene-1-sulfonamide;

(R,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-(3-(methylsulfonyl)propyl)pyrrolidin-2-yl)ethenesulfonamide;

(R,E)-2-(1-benzoylpyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethenesulfonamide;

(R,E)-N-((2-(1-benzoylpyrrolidin-2-yl)vinyl)sulfonyl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)benzamide;

(R,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(pyrrolidin-2-yl)ethenesulfonamide;

(R,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-(thiophene-3-carbonyl)pyrrolidin-2-yl)ethenesulfonamide;

(R,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(pyrrolidin-2-yl)ethene-1-sulfonamide methane sulfonate;

(R,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(pyrrolidin-2-yl)ethene-1-sulfonamide maleate;

(R,Z)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(pyrrolidin-2-yl)ethene-1-sulfonamide;

(S,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-3-(pyrrolidin-2-yl)prop-1-ene-1-sulfonamide;

(R,E)-2-(1-(cyclohexylsulfonyl)pyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-1-sulfonamide;

(R,Z)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-methylpyrrolidin-2-yl)ethene-1-sulfonamide;

(R,E)-2-(1-(cyclohexylmethyl)pyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-1-sulfonamide;

(R,E)-2-(1-cyclohexylpyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-1-sulfonamide;

(R,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-(1-methylpiperidin-4-yl)pyrrolidin-2-yl)ethene-1-sulfonamide;

(R,Z)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-isopropylpyrrolidin-2-yl)ethene-1-sulfonamide;

(R,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-(tetrahydro-2H-pyran-4-yl)pyrrolidin-2-yl)ethene-1-sulfonamide;

(R,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-(oxetan-3-yl)pyrrolidin-2-yl)ethene-1-sulfonamide;

(R,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-(tetrahydro-2H-thiopyran-4-yl)pyrrolidin-2-yl)ethene-1-sulfonamide;

(R,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-(thiazol-2-ylmethyl)pyrrolidin-2-yl)ethene-1-sulfonamide;

(E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(piperidin-4-yl)ethenesulfonamide;

(E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-methylpiperidin-4-yl)ethenesulfonamide;

(E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-(methylsulfonyl)piperidin-4-yl)ethenesulfonamide;

(E)-2-(1-acetylpiperidin-4-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-sulfonamide;

tert-butyl (E)-4-(2-(N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl) sulfamoyl)vinyl)-piperidine-1-carboxylate;

(E)-2-(1-ethylpiperidin-4-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-1-sulfonamide;

(R,E)-2-(1-ethylpyrrolidin-3-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-ethenesulfonamide;

(R,E)-1,1-diethyl-3-(2-(N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)sulfamoyl)-vinyl)pyrrolidin-1-iumbromide;

(E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(pyrrolidin-3-yl)ethene-sulfonamide;

(R,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(2-methylpyrrolidin-2-yl)ethene-1-sulfonamide;

tert-butyl (R,E)-2-(2-(N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl) sulfamoyl)vinyl)-2-methylpyrrolidine-1-carboxylate;

(R,E)-2-(1-acetyl-2-methylpyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-1-sulfonamide;

(R,E)-1,1-diethyl-2-(2-(N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)sulfamoyl)-vinyl)-2-methylpyrrolidin-1-ium bromide;

(R,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(2-methyl-1-(methylsulfonyl)-pyrrolidin-2-yl)ethene-1-sulfonamide;:

(R,E)-2-(1,2-dimethylpyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-1-sulfonamide;

(R,E)-2-(1-ethyl-2-methylpyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-1-sulfonamide;

(R,E)-2-(1-(cyclopropylmethyl)-2-methylpyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-1-sulfonamide;

(S,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(pyrrolidin-2-yl)ethene-sulfonamide;

(S,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-methylpyrrolidin-2-yl)ethenesulfonamide;

(S,E)-tert-butyl2-(2-(N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl) sulfamoyl) vinyl)pyrrolidine-1-carboxylate;

(S,E)-2-(1-(cyclopropylmethyl)pyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethenesulfonamide;

(S,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-(pyridin-3-ylsulfonyl)-pyrrolidin-2-yl)ethenesulfonamide;

(S,E)-N-((2,6-diisopropylphenyl)carbamoyl)-2-(pyrrolidin-2-yl)ethenesulfonamide;

(S,E)-N-((2,6-diisopropylphenyl)carbamoyl)-2-(1-ethylpyrrolidin-2-yl)ethenesulfonamide;

(S,E)-N-((2,6-diisopropylphenyl)carbamoyl)-2-(1-(methylsulfonyl) pyrrolidin-2-yl)ethene-sulfonamide;

(S,E)-N-((2,6-diisopropylphenyl)carbamoyl)-2-(1-methylpyrrolidin-2-yl)ethenesulfonamide;

(S,E)-2-(1-acetylpyrrolidin-2-yl)-N-((2,6-diisopropylphenyl) carbamoyl)ethenesulfonamide;

(S,E)-2-(1-acetylpyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-ethenesulfonamide;

(S,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-(tetrahydro-2H-pyran-4-carbonyl)pyrrolidin-2-yl)ethenesulfonamide;

(E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(tetrahydro-2H-pyran-4-yl)ethenesulfonamide;

(S,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-nicotinoylpyrrolidin-2-yl)ethenesulfonamide;

(E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(tetrahydrofuran-2-yl)ethene-1-sulfonamide;

(S,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-(thiophen-2-ylmethyl)-pyrrolidin-2-yl)ethene-1-sulfonamide;

tert-butyl(S,E)-2-(2-(N-((4-fluoro-2,6-diisopropylphenyl)carbamoyl) sulfamoyl) vinyl)-pyrrolidine-1-carboxylate;

(S,E)-N-((4-fluoro-2,6-diisopropylphenyl)carbamoyl)-2-(pyrrolidin-2-yl)ethene-1-sulfonamide;

(S,E)-N-((4-fluoro-2,6-diisopropylphenyl)carbamoyl)-2-(1-methylpyrrolidin-2-yl) ethene-1-sulfonamide;

(R,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-isobutyl-2-methyl-pyrrolidin-2-yl)ethene-1-sulfonamide;

(R,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(2-methyl-1-propylpyrrolidin-2-yl)ethene-1-sulfonamide;

(S,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-(thiazol-2-yl)pyrrolidin-2-yl)ethene-1-sulfonamide;

(E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(piperidin-3-yl)ethene-sulfonamide;

(E)-2-(1-ethylpiperidin-3-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-sulfonamide;

(E)-tert-butyl 3-(2-(N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl) sulfamoyl)vinyl)-piperidine-1-carboxylate;

(E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1- (methylsulfonyl) piperidin-3-yl)ethenesulfonamide;

(E)-2-(1-acetylpiperidin-3-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-sulfonamide;

tert-butyl(E)-2-(2-(N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)sulfamoyl)vinyl)-azetidine-1-carboxylate;

(E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-methylazetidin-2-yl)ethene-1-sulfonamide;

(E)-2-(azetidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-1-sulfonamide;

(R,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-(tetrahydro-2H-pyran-4-yl)pyrrolidin-2-yl)ethene-1-sulfonamide;

(S,E)-2-(1-((5-chlorothiophen-2-yl)sulfonyl)pyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethenesulfonamide;

(S,E)-2-(1-(benzylsulfonyl)pyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethenesulfonamide;

(S,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-((4-methoxyphenyl)sulfonyl) pyrrolidin-2-yl)ethenesulfonamide;

(S,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-((4-fluorophenyl)sulfonyl) pyrrolidin-2-yl)ethenesulfonamide;

(S,E)-2-(1-((2-cyanophenyl)sulfonyl)pyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethenesulfonamide;

(S,E)-2-(1-(cyclohexylsulfonyl)pyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethenesulfonamide;

(S,E)-2-(1-(4-fluorobenzyl)pyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethenesulfonamide;

(S,E)-2-(1-((4-cyanophenyl)sulfonyl)pyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-1-sulfonamide;

(S,E)-2-(1-(4-cyanobenzyl)pyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-1-sulfonamide;

(S,E)-N-((1,2,3,6,7,8-hexahydro-as-indacen-4-yl)carbamoyl)-2-(pyrrolidin-2-yl)ethene-1-sulfonamide;

(E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(piperidin-2-yl)ethene-1-sulfonamide;

(E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-methylpiperidin-2-yl)ethene-1-sulfonamide;

(E)-N-((1,2,3,6,7,8-hexahydro-as-indacen-4-yl)carbamoyl)-2-(1-methylpyrrolidin-2-yl)ethene-1-sulfonamide;

(E)-N-((1,2,3,6,7,8-hexahydro-as-indacen-4-yl)carbamoyl)-2-(1-(methylsulfonyl)pyrrolidin-2-yl)ethene-1-sulfonamide;

((E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-3-(piperidin-2-yl)prop-1-ene-1-sulfonamide;

(S,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(2-methylpyrrolidin-2-yl)ethene-1-sulfonamide;

(S,E)-2-(1,2-dimethylpyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-1-sulfonamide;

(E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(indolin-2-yl)ethene-1-sulfonamide;

tert-butyl(E)-2-(2-(N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl) sulfamoyl) vinyl)indoline-1-carboxylate;

((S,E)-2-(1-(cyclopropylmethyl)-2-methylpyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-1-sulfonamide;

(S,E)-2-(1-(cyclopropylsulfonyl)pyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-1-sulfonamide;

tert-butyl (S,E)-2-(2-(N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl) sulfamoyl)vinyl)-2-methylpyrrolidine-1-carboxylate;

tert-butyl (R,E)-2-(2-(N-((2,6-diisopropylphenyl)carbamoyl) sulfamoyl) vinyl)-2-methylpyrrolidine-1-carboxylate;

(R,E)-N-((2,6-diisopropylphenyl)carbamoyl)-2-(2-methylpyrrolidin-2-yl)ethene-1-sulfonamide 2,2,2-trifluoroacetate;

(R,E)-N-((2,6-diisopropylphenyl)carbamoyl)-2-(1,2-dimethylpyrrolidin-2-yl)ethene-1-sulfonamide;

(S,E)-2-(1-ethyl-2-methylpyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-1-sulfonamide;

Bis sodium (R,E)-((2-(1,2-dimethylpyrrolidin-2-yl)vinyl)sulfonyl)((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)amide;

Sodium (R,E)-((2-(1,2-dimethylpyrrolidin-2-yl)vinyl)sulfonyl)((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)amide;

tert-butyl (S,E)-2-(2-(N-((2,6-diisopropylphenyl)carbamoyl)sulfamoyl) vinyl)-2-methylpyrrolidine-1-carboxylate;

(S,E)-N-((2,6-diisopropylphenyl)carbamoyl)-2-(2-methylpyrrolidin-2-yl)ethene-1-sulfonamide 2,2,2-trifluoroacetate;

(S,E)-N-((2,6-diisopropylphenyl)carbamoyl)-2-(1,2-dimethylpyrrolidin-2-yl)ethene-1-sulfonamide;

(R,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(2-methyl-1-(oxetan-3-yl)pyrrolidin-2-yl)ethene-1-sulfonamide;

tert-butyl (S,E)-2-(2-(N-((4-fluoro-2,6-diisopropylphenyl)carbamoyl) sulfamoyl)vinyl)-2-methylpyrrolidine-1-carboxylate;

(S,E)-N-((4-fluoro-2,6-diisopropylphenyl)carbamoyl)-2-(2-methylpyrrolidin-2-yl)ethene-1-sulfonamide 2,2,2-trifluoroacetate;

(S,E)-2-(1,2-dimethylpyrrolidin-2-yl)-N-((4-fluoro-2,6-diisopropylphenyl)carbamoyl)ethene-1-sulfonamide;

(E)-2-(1-acetylazetidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-1-sulfonamide;

tert-butyl (R,E)-(2-(2-(2-(N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)sulfamoyl)vinyl)pyrrolidin-1-yl)ethyl)(methyl)carbamate;

(S,E)-2-(1-allylpyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-1-sulfonamide;

(S,E)-2-(1-(1H-benzo[d]imidazole-6-carbonyl)pyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-1-sulfonamide;

(S,E)-2-(1-(cyclopropylsulfonyl)-2-methylpyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-1-sulfonamide;

(S,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-(4-methoxybenzyl)pyrrolidin-2-yl)ethene-1-sulfonamide;

tert-butyl 5-((R)-2-((E)-2-(N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl) carbamoyl)sulfamoyl)vinyl)pyrrolidin-1-yl)hexahydrocyclopenta[c]pyrrole-2(1H)-carboxylate;

(E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-((2R)-1-(octahydrocyclopenta[c]pyrrol-5-yl)pyrrolidin-2-yl)ethene-1-sulfonamide 2,2,2-trifluoroacetate;

(E)-2-(1-(cyclopropylsulfonyl)azetidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-1-sulfonamide;

(S,E)-N-((2,6-diisopropylphenyl)carbamoyl)-2-(1-(thiazol-2-yl)pyrrolidin-2-yl)ethene-1-sulfonamide;

tert-butyl (S,E)-(2-(2-(2-(N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)sulfamoyl)vinyl)-2-methylpyrrolidin-1-yl)ethyl)(methyl)carbamate;

potassium (R,E)-((2-(1,2-dimethylpyrrolidin-2-yl)vinyl)sulfonyl)((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)amide;

tert-butyl (E)-(2-(2-(2-(N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)sulfamoyl)vinyl)azetidin-1-yl)ethyl)(methyl)carbamate;

(S,E)-2-(1-(cyclohexylmethyl)-2-methylpyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-1-sulfonamide;

Sodium (R,E)-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)((2-(1-(tetrahydro-2H-thiopyran-4-yl)pyrrolidin-2-yl)vinyl)sulfonyl)amide;

sodium (R,E)-((2-(1-cyclohexylpyrrolidin-2-yl)vinyl)sulfonyl)((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)amide;

sodium (S,E)-((2,6-diisopropylphenyl)carbamoyl)((2-(1,2-dimethylpyrrolidin-2-yl)vinyl)sulfonyl)amide;

sodium (R,E)-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)((2-(1-methylpyrrolidin-2-yl)vinyl)sulfonyl)amide;

potassium (R,E)-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)((2-(1-methylpyrrolidin-2-yl)vinyl)sulfonyl)amide;

sodium (S,E)-((2-(1,2-dimethylpyrrolidin-2-yl)vinyl)sulfonyl)((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)amide;

sodium (S,E)-((2-(1-ethylpyrrolidin-2-yl)vinyl)sulfonyl)((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)amide;

(S,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-(2-hydroxyethyl)pyrrolidin-2-yl)ethene-1-sulfonamide;

tert-butyl (E)-2-(2-(N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)sulfamoyl)vinyl)-2-methylazetidine-1-carboxylate;

(E)-2-(1,2-dimethylazetidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-1-sulfonamide;

tert-butyl (S,E)-2-ethyl-2-(2-(N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)sulfamoyl)vinyl)pyrrolidine-1-carboxylate;

tert-butyl (S,E)-2-(2-(N-((1,2,3,6,7,8-hexahydro-as-indacen-4-yl)carbamoyl)sulfamoyl)vinyl)-2-methylpyrrolidine-1-carboxylate;

(S,E)-2-(2-ethylpyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-1-sulfonamide 2,2,2-trifluoroacetate;

(S,E)-N-((1,2,3,6,7,8-hexahydro-as-indacen-4-yl)carbamoyl)-2-(2-methylpyrrolidin-2-yl)ethene-1-sulfonamide 2,2,2-trifluoroacetate;

(S,E)-2-(1,2-dimethylpyrrolidin-2-yl)-N-((1,2,3,6,7,8-hexahydro-as-indacen-4-yl)carbamoyl)ethene-1-sulfonamide;

tert-butyl (R,E)-2-(2-(N-((1,2,3,6,7,8-hexahydro-as-indacen-4-yl)carbamoyl)sulfamoyl)vinyl)-2-methylpyrrolidine-1-carboxylate;

(R,E)-N-((1,2,3,6,7,8-hexahydro-as-indacen-4-yl)carbamoyl)-2-(2-methylpyrrolidin-2-yl)ethene-1-sulfonamide 2,2,2-trifluoroacetate;

(R,E)-2-(1,2-dimethylpyrrolidin-2-yl)-N-((1,2,3,6,7,8-hexahydro-as-indacen-4-yl)carbamoyl)ethene-1-sulfonamide;

tert-butyl (R,E)-2-(3-(N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)sulfamoyl)allyl)-2-methylpyrrolidine-1-carboxylate;

tert-butyl (R,E)-(2-(2-(3-(N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)sulfamoyl)allyl)-2-methylpyrrolidin-1-yl)ethyl)(methyl)carbamate;

(R,E)-3-(1,2-dimethylpyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)prop-1-ene-1-sulfonamide;

tert-butyl (S,E)-(3-(2-(2-(N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)sulfamoyl)vinyl)pyrrolidin-1-yl)propyl)(methyl)carbamate;

tert-butyl (E)-(3-(2-(2-(N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)sulfamoyl)vinyl)-2-methylazetidin-1-yl)propyl)(methyl)carbamate;

tert-butyl (E)-(2-(2-(2-(N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)sulfamoyl)vinyl)-2-methylazetidin-1-yl)ethyl)(methyl)carbamate;

(E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(2-methyl-1-(2-(methylthio)ethyl)azetidin-2-yl)ethene-1-sulfonamide;

(E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(2-methyl-1-(oxetan-3-yl)azetidin-2-yl)ethene-1-sulfonamide;

tert-butyl (S)-2-(((S)-2-((E)-2-(N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)sulfamoyl)vinyl)-2-methylazetidin-1-yl)methyl)-2-methylpyrrolidine-1-carboxylate;

tert-butyl (S)-2-(((R)-2-((E)-2-(N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)sulfamoyl)vinyl)-2-methylazetidin-1-yl)methyl)-2-methylpyrrolidine-1-carboxylate;

(R,E)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)-2-(1-(2-sulfamoylethyl)pyrrolidin-2-yl)ethene-1-sulfonamide;

(S,E)-2-(2-ethyl-1-methylpyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-1-sulfonamide;

(R,E)-2-(1-(but-2-yn-1-yl)pyrrolidin-2-yl)-N-((1,2,3,5,6,7-hexahydro-s-indacen-4-yl)carbamoyl)ethene-1-sulfonamide;

~~8.~~7. A pharmaceutical composition comprising a therapeutically effective amount of a compound of Formula (**I**) as claimed in any of the preceding claims and optionally one or more pharmaceutically acceptable carriers, diluents or excipients.

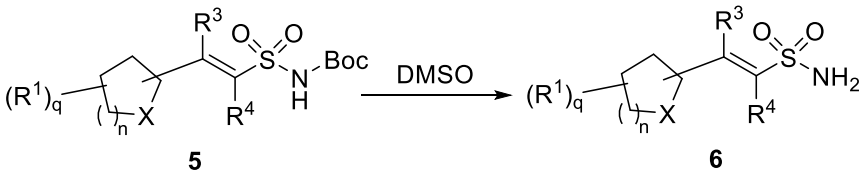
~~9.~~8. ~~A method of treating diseases medicated by the NLRP3 modulators as well as treatment of diseases or conditions in which interleukin 1β activity and interleukin 18 (IL 18) are implicated which comprising administering to a patient in need thereof an effective amount of a~~ A compound of Formula (**I**) as claimed in any of the preceding claims or its suitable pharmaceutical composition for use in therapy.

~~10.~~9. Use ~~The use~~ of a compound~~s~~ of formula **(I)** or its pharmaceutical compositions as claimed in any of the preceding claims 1 to 7 in the manufacture of a medicament for the prevention or treatment of inherited disorders such as the rare periodic fever syndrome, cryopyrin associated periodic syndromes (CAPS), Tumor necrosis factor receptor-associated periodic syndrome (TRAPS) and complex diseases such as multiple sclerosis, Inflammatory bowel disease (IBD), type 2 diabetes, atherosclerosis, asthma, gouty arthritis, and inflammatory central nervous system (CNS) diseases including Parkinson's, Alzheimer's and other brain diseases ~~suitable for treatment of diseases wherein the NLRP3 modulator has a pathophysiological function~~.

~~11.~~10. The pharmaceutical composition as claimed in claims 7~~8~~ in combination with one or more suitable pharmaceutically active agents selected from Inhibitors of interleukin-1β; immune-suppressants; metabolic disorders drugs, glucocorticoids, non-steroidal anti-inflammatory drugs, COX-2 specific inhibitors, anti-inflammatory drugs, TNF-α binding proteins, interferon-13, interferon, interleukin-2, antihistamines, beta-agonist, BTK inhibitors, anticolinergics, anti-cancer agents or their suitable pharmaceutically acceptable salts, Non-Alcoholic Steato- Hepatitis (NASH) and fibrosis drugs, anticancer drugs, antibiotics, hormones, aromatase inhibitors, inhibitors of mitogen-activated protein kinase signaling, Syk inhibitors, mTOR inhibitors, and BCR/ABL antagonists.

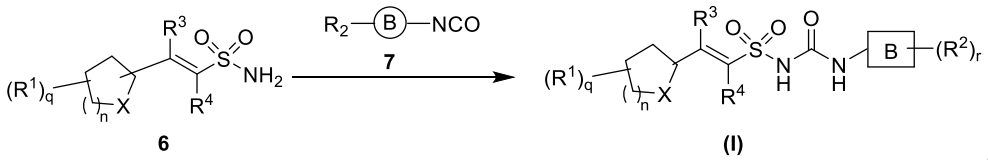
~~12.~~11. A process for the preparation of compound of formula (I) with m=0 as claimed in claim 1, comprising the following steps:

(i) reacting compound of formula (5) with DMSO where all symbols are as defined in claim 1, except that m is 0, to obtain compound of formula (6)



5 6

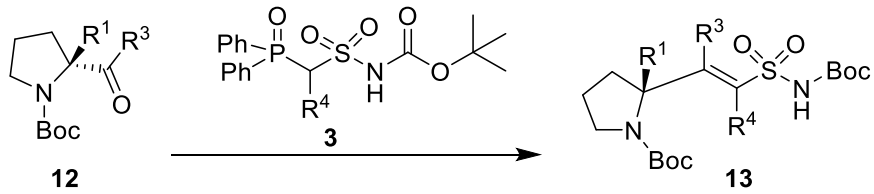
(ii) reacting compound of formula (6) with isocyanato derivative of compound of formula (7) where all symbols are as defined in claim 1, except that m is 0, to obtain compound of formula (I)



6 (I)

~~13.~~**12.** A process for the preparation of compound of formula (I) with m=0 as claimed in claim 1, comprising the following steps:

(a) (i) reacting compound of formula (12) with compound of formula (3) where all symbols are as defined in claim 1, except that m is 0, to obtain compound of formula (13)



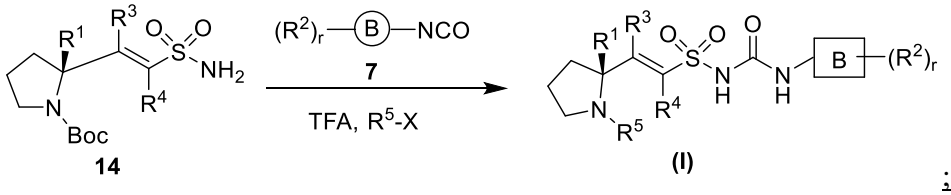
12 13

(ii) reacting compound of formula (13) with DMSO where all symbols are as defined in claim 1, except that m is 0, to obtain compound of formula (14).



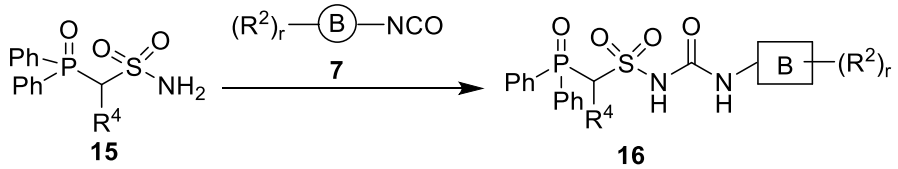
13 14

(iii) reacting compound of formula (14) with isocyanato derivative of compound of formula (7) where all symbols are as defined in claim 1, except that m is 0, to obtain compound of formula (I)

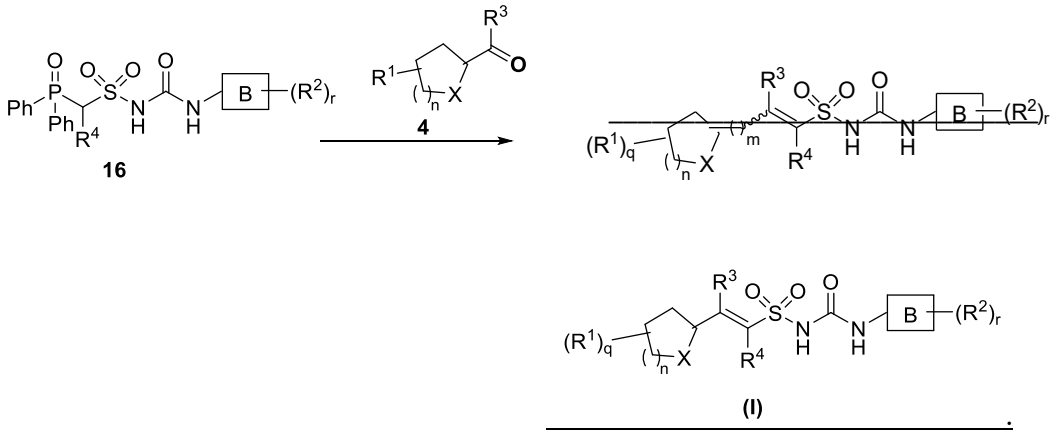


; or

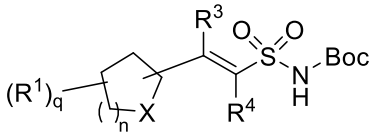
(b) (i) reacting compound of formula (15) with isocyanato derivative of compound of formula (7) where all symbols are as defined in claim 1, except that m is 0, to obtain compound of formula (16)



(ii) reacting compound of formula (16) with the compound of formula (4) where all symbols are as defined in claim 1, except that m is 0, to obtain compound of formula (I)



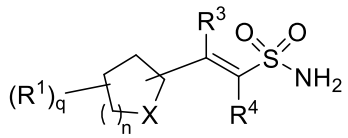
~~14.~~13. Use of a~~A~~n intermediate of Formula (5),



Formula (5)

where all symbols are as defined in claim 1, except that m is 0, in a process to obtain compound of formula (I) with m=0.

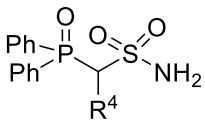
~~15.~~**14.** Use of a~~A~~n intermediate of Formula (6),



Formula (6)

w~~W~~here all symbols are as defined in claim 1, except that m is 0, in a process to obtain compound of formula (I) with m=0.

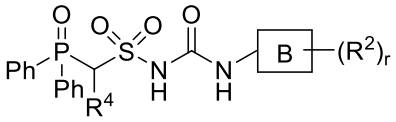
~~16.~~**15.** Use of a~~A~~n intermediate of Formula (15),



Formula (15)

where all symbols are as defined in claim 1 in a process to obtain compound of formula (I).

~~17.~~**16.** Use of a~~A~~n intermediate of Formula (16),



Formula (16)

where all symbols are as defined in claim 1 in a process to obtain compound of formula (I).