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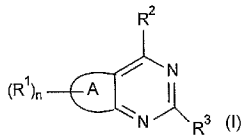
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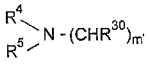
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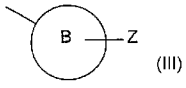
(54) Title: PHARMACEUTICAL COMPOUNDS



(I)



(II)



(III)

(57) Abstract: Fused pyrimidines of formula (I): wherein A represents a thiophene or furan ring; n is 0, 1 or 2; R^1 is a group of formula: wherein m is 0 or 1; R^{30} is H or C_1-C_6 alkyl; R^4 and R^5 form, together with the N atom to which they are attached, a 5- or 6- membered saturated N-containing heterocyclic group which includes 0 or 1 additional heteroatoms selected from N, S and O, which may be fused to a benzene ring and which is unsubstituted or substituted; or one of R4 and R5 is alkyl and the other is a 5- or 6-membered saturated N-containing heterocyclic group as defined above or an alkyl group which is substituted by a 5- or 6-membered saturated N-containing heterocyclic group as defined above; R^2 is a heteroaryl group which contains I5 2, 3 or 4 ring nitrogen atoms and 0,1 or 2 additional heteroatoms selected from O, N and S, which group is monocyclic or bicyclic and which is unsubstituted or substituted; and R3 is selected from: (a) a group of the following formula: wherein B is a phenyl ring which is unsubstituted or substituted and Z is selected from H, -OR, -SR, CH2OR, $-CO_2R$, CF_2OH, $CH(CF_3)OH$, $C(CF_3)_2OH$, $-(CH_2)_qOR$, $-(CH_2)_qNR_2$, $-C(O)N(R)_2$, $-NR_2$, -NRC(O)R, $-S(O)_mN(R)_2$, -OC(O)R, $OC(O)N(R)_2$, - NRS(O) $_m$R, $-RC(O)N(R)_2$, CN, halogen and $-NO_2$, wherein each R is independently selected from H, C_1-C_6 alkyl, C_3 - C_{10} cycloalkyl and a 5- to 12-membered aryl or heteroaryl group, the group being unsubstituted or substituted, m is 1 or 2 and q is 0, 1 or 2; (b) a heteroaryl group which contains 1, 2, 3 or 4 ring nitrogen atoms and 0, 1 or 2 additional heteroatoms selected from O and S, which group is monocyclic or bicyclic and which is unsubstituted or substituted; and (c) a group comprising a benzene ring which is unsubstituted or substituted and which is fused to a heteroaryl group as defined above; and the pharmaceutically acceptable salt thereof have activity as inhibitors of PBK and may thus be used to treat diseases and disorders arising from abnormal cell growth, function or behaviour associated with PI3 kinase such as cancer, immune disorders, cardiovascular disease, viral infection, inflammation, metabolism/endocrine disorders and neurological disorders. Processes for synthesizing the compounds are also described.

WO 2007/132171 A1