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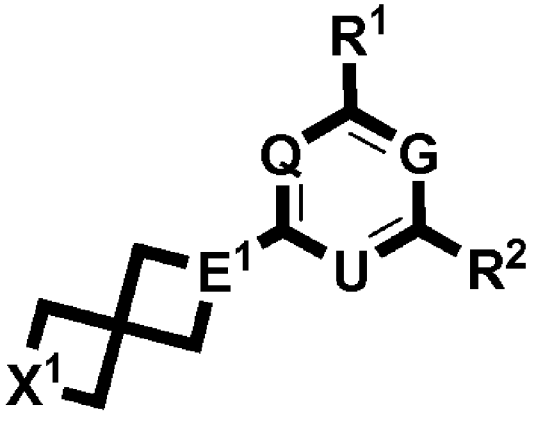
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(54) **Title**: SPIROCYCLIC COMPOUNDS AND THEIR USE AS THERAPEUTIC AGENTS AND DIAGNOSTIC PROBES



(I)

(57) **Abstract**: The invention relates to new triazines (G = Q = U are N), pyrimidines (two out of G, Q and U are N), and pyridopyrimidines (one of G and U together with R2 forms an anullated pyridine ring) of formula (I) carrying a spirocyclic substituent, wherein E^1 is CR^4 or N; X^1 is CHR^4, CH_2CH_2, NR^4, NR4→0, or O; and the other substituents are as defined in the specification. The compounds inhibit phosphoinositide 3-kinase (PI3K), mammalian target of rapamycin (mTOR), DNA-PK and ATM kinase, and may be used as therapeutic agents or diagnostic probes. The invention also relates to methods of using the compounds for treatment of associated pathological conditions.