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Design and synthesis of some novel 1-chloro-6-(4-(sulfonyl) piperidin-4-yl) phenyl)-6,7-dihydro-5*H*-cyclopenta[c]pyridin-5-ones as *in vitro* anticancer agents

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The multi-step synthesis and structural determination by ^{1}H and ^{13}C NMR, IR, and mass spectroscopic investigations of certain new piperidinyl-pyridines **10a-o** are described in this article. Compounds **10e**, **10g**, **10h**, **10i**, **10j**, and **10n** show greater efficacy with Doxorubicin, which is employed as a positive control, when tested for anti-cancer activity *in vitro* against two cancer cell lines, A549 and MCF-7. The compound **10g** shows promising action over A549 and MCF-7, with IC_{50} values of 16.3 and 12.3 M respectively. Other IC_{50} values indicate towards strong potential and were in the good promise range.

Keywords: Piperidinyl-pyridinones, Anti-cancer action, MCF-7 breast cancer cell lines, A549 lung cancer cell lines

Drug development and design have been going on for