Synthesis and Evaluation of Pyrido[2,3-d]pyrimidine and 1,8-Naphthyridine Derivatives as Potential Antitumor Agents

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Abstract

New series of pyrido[2,3-d]pyrimidine and 1,8-naphthyridine derivatives were synthesized from 2-amino-6-(phenoxathiin-2-yl)-4-(thiophene-2-yl) nicotinonitrile as starting material, and their structures were characterized on the basis of the spectral data. Most of the synthesized compounds were evaluated for their cytotoxic activity against two cancer cell lines, namely, breast cancer Michigan Cancer Foundation-7 (MCF-7) and prostate cancer human prostatic carcinoma cell line (PC-3) using MTT assay. Some of these compounds showed potent cytotoxic effect concluded from their IC50 values.