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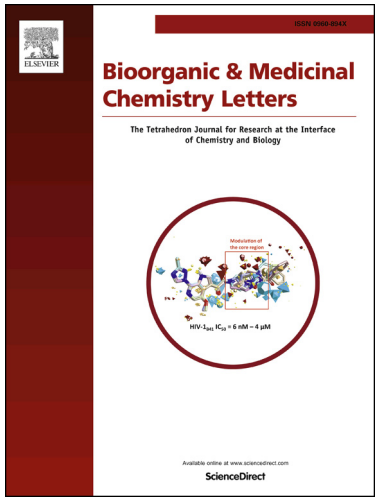

Synthesis and bioactivity evaluation of 2,3-diaryl acrylonitrile derivatives as potential anticancer agents

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Graphical Abstract

Thirty novel derivatives of 2,3-diaryl acrylonitrile were synthesized using TMSCN and TBAF, and evaluated for biological activity. Preliminary investigations of antitumor activity *in vitro* showed that most of the synthesized compounds have significant antiproliferative effects on human cancer cell lines, such as BEL-7402, HeLa, and HCT116 with IC_{50} values in the range of 0.13–60.23 μM without significant toxic effects on the non-cancerous human liver cell line L-02. In particular, compounds **4d** and **4p** were found to be the most potent against HeLa (4.20 μM) and HCT116 cells (0.13 μM), respectively, with superior or similar *in vitro* efficacy to that of the broad-spectrum anticancer drug taxol.

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