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

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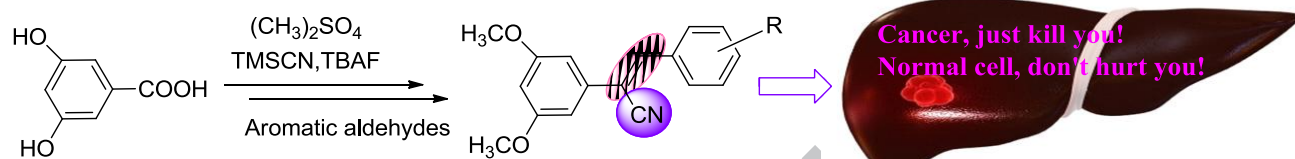


## Graphical Abstract

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  $\mu$ M 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  $\mu$ M) and HCT116 cells (0.13  $\mu$ M), respectively, with superior or similar *in vitro* efficacy to that of the broad-spectrum anticancer drug taxol.

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