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Synthesis, Cytotoxic and Antimicrobial activities of 5-benzylidene-2-[(pyridine-2-ylmethylene)hydrazono]-thiazolidin-4-one Derivatives

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SUMMARY. A novel series of 5-benzylidene-2-[(pyridine-2-ylmethylene)hydrazono]-thiazolidin-4-ones **3a-i** has been synthesized. 2-[(Pyridine-2-ylmethylene)hydrazono]-thiazolidin-4-ones **2a-c** were also obtained and used as intermediates to give the target compounds. The *in vitro* cytotoxic activity was evaluated for both series. The findings obtained showed that the compounds **2a**, **2b**, **3b** and **3c** were effective against the HEp-2 cell lines with IC_{50} in the 1.6 - 0.5 μg/mL range, whereas the compounds **2a** (IC_{50}= 3.6 μg/mL), **2b** (IC_{50}= 2.4 μg/mL) and **3f** (IC_{50}= 3.5 μg/mL) showed good inhibitory effects against HT-29 cell lines. As complementary biological test, all 4-thiazolidinones were evaluated for antimicrobial activity against various bacterial and fungal species.

KEY WORDS: Antimicrobial activity, Antiproliferative activity, Cytotoxicity, 4-Thiazolidinone.

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