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Synthesis of novel thiazolidinedione derivatives and evaluation of their antiviral activity

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We previously identified one large molecular structure targeting the HIV-1 gp41, 2-Aryl 5-(4-Oxo-3-phenethyl-2-thioxothiazolidinylidenemethyl)furan, which acts as lead compound for our novel synthetized drugs. On the basis of molecular docking analysis, we designed a series of 5-benzylidene-3-phenethylimidazolidine-2,4-dione. Novel thiazolidinedione derivatives were synthesized starting from hydantoin and thiohydantoin. 5-benzylidene-3-phenethylimidazolidine-2,4-diones were synthetized by alkylation followed by a Knoevenagel condensation and tested for their anti-HIV-1 activity and cytotoxicity on MT-2 cells. The synthesized compounds were characterized by ^{1}H NMR, ^{13}C NMR, mass spectroscopy, high resolution mass spectroscopy, IR and physical data.

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