Synthesis, Characterization and anti-HIV and Antitumor Activities of New Coumarin Derivatives

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A new series of coumarin and benzofuran derivatives were synthesized as potential non-nucleoside reverse transcriptase inhibitors (NNRTIs) by reacting, separately, 4-bromomethylcoumarins, their sulphonyl chlorides, and ethyl 3-(bromomethyl)-6-methoxy-1-benzofuran-2-carboxylate with different imidazoles and their benzo analogs. The antiviral (HIV-1, HIV-2) properties of the newly synthesized compounds were investigated *in vitro* and all compounds were found to be inactive, except **10** which showed inhibition of HIV-2 with $EC_{50} > 0.51\ \mu g\ mL^{-1}$. The *in vitro* cytotoxicity of **17** and **19** was assayed against a panel of tumor cell lines consisting of CD4 human T-cells.

Key words: Anti-HIV Activity, Antitumor Activity, Coumarins, Imidazoles, NNRTIs