Synthesis, and QSAR analysis of anti-oncological active spiro-alkaloids

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Abstract

3D-pharmacophore and 2D-QSAR modeling studies describe the anti-oncological properties of spiroalkaloids.
The dispiro[2H-indene-2,3'-pyrrolidine-2',3''-[3H]indole]-1,2''(1''H, 3H)-diones 20–38 were prepared
via 1,3-dipolar cycloaddition reactions of azomethine ylides (generated in situ via decarboxylative
condensation of isatins 7–9 with sarcosine 10) and 2-(arylmethylidene)-2,3-dihydro-1H-inden-1-ones
11–19 in refluxing ethanol. Some of the spiro-alkaloids (21, 22, 29 and 37) revealed potent antitumor properties
against melanoma carcinoma cell lines (GaLa, LuPiCi and LuCa) utilizing the in vitro SRB standard
method exhibiting potency close to that of the standard reference doxorubicin.

Organic & Biomolecular Chemistry 13,1741-1753 (2015). 2015, March