Regioselective synthesis and anti-inflammatory activity of novel dispiro[pyrazolidine-4,3'-pyrrolidine-2',3"-indoline]-2",3,5-triones

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Abstract:

Novel dispiro[pyrazolidine-4,3'-pyrrolidine-2',3"-indoline]-2",3,5-triones 5a-j were obtained regioselectively by 1,3-dipolar cycloaddition reaction of 4-arylidene-1-phenylpyrazolidine-3,5- diones 2a-e as dipolarophiles with non-stabilized azomethine ylides, generated in situ via decarboxylative condensation of isatins 3a,b and sarcosine 4 in dry ethanol. The prepared compounds were screened for their anti-inflammatory activity "at a dose of 10 mg/kg body weight", especially 5d, 5f, 5h, and 5j which reveal remarkable activities relative to indomethacin which was used as a reference standard in this study.

Keywords:

Azomethine ylides, 1,3-dipolar cycloaddition, spiroheterocycles, anti-inflammatory

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