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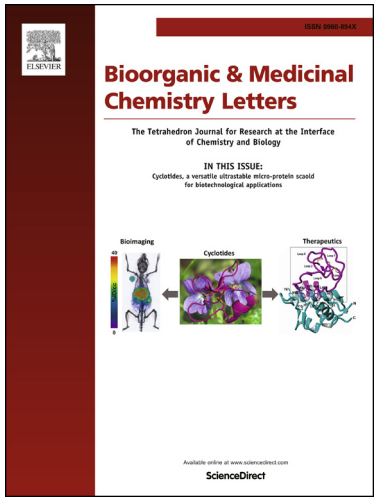

Microwave-assisted synthesis of novel 5-substituted benzylidene amino-2-butyl benzofuran-3-yl-4-methoxyphenyl methanones as antileishmanial and antioxidant agents

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ABSTRACT

A series of 5-substitutedbenzylideneamino-2-butylbenzofuran-3-yl-4-methoxyphenyl methanones is synthesized and evaluated for antileishmanial and antioxidant activities. Compounds **4f** (IC_{50}= 52.0± 0.09 µg/ml),**4h** (IC_{50}= 56.0± 0.71µg/ml)and **4l** (IC_{50}=59.3± 0.55µg/ml)were shown significant antileishmanial when compared with standard sodium stibogluconate(IC_{50}=490.0± 1.5µg/ml). Antioxidant study revealed that compounds**4i** (IC_{50}= 2.44 ± 0.47µg/ml) and **4l** (IC_{50}= 3.69 ± 0.44µg/ml) have shown potent comparable activity when compared with standard ascorbic acid (IC_{50}= 3.31 ± 0.34µg/ml).Molecular docking study was carried out which replicating results of biological activity in case of initial hits **4f** and**4h** suggesting that these compounds have a potential to become lead molecules in drug discovery process. In silico ADME study was performed for predicting pharmacokinetic profile of the synthesised antileishmanial agents and expressed good oral drug like behaviour.

Keywords:

Benzofuran derivatives; Antileishmanial activity; Antioxidant activity; Docking study; ADME properties