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Dongamanti Ashok, Mohan Gandhi Devulapally, Vikas Kumar Aamate, Srinivas Gundu, Shaik Adam, S.D.S. Murthy, Sridhar Balasubramanian, Baindla Naveen, Tigulla Parthasarathy

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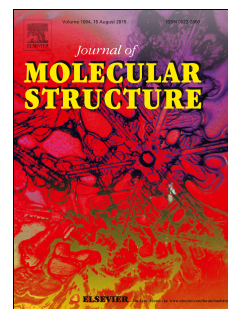
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Novel pyrano [3,2-*b*]xanthen-7(2*H*)-ones: Synthesis, antimicrobial, antioxidant and molecular docking studies

Ashok Dongamanti,^{a,*} Mohan Gandhi Devulapally,^a Vikas Kumar Aamate,^a Srinivas Gundu,^a Shaik Adam,^b Murthy S. D. S,^b Sridhar Balasubramanian,^c Naveen Baindla^d and Parthasarathy Tigulla^d

^a *Green and Medicinal Chemistry Lab, Department of Chemistry, Osmania University, Hyderabad-500 007, Telangana State, India*

^b *Nanotechnology laboratory, Institute of frontier technology, Regional Agricultural Research Station (RARS), Tirupati, Andra Pradesh, India.*

^c *X-ray Crystallography Division, CSIR-Indian Institute of Chemical Technology, Hyderabad-500 007, Telangana State, India.*

^d *Department of Chemistry, Osmania University, Hyderabad-500 007, Telangana State, India.*

* Corresponding author Tel.: +91-9391024769; e-mail: ashokdou@gmail.com.

Abstract A simple, efficient, and eco-friendly synthetic protocol has been developed for the synthesis of pyranoxanthenes via one pot three-component reaction. This reaction is between aromatic aldehyde, 2,2-dimethylchroman-7-ol and 1,3-cyclohexanedione by using molecular iodine in AcOH as a reaction medium under microwave irradiation. Utilizing this protocol a variety of xanthene derivatives were synthesized in excellent yields. The synthesized compounds were established based on the spectral data and single crystal X-ray diffraction analysis of **6f**. The synthesized compounds were evaluated for their *in vitro* antimicrobial and antioxidant activity. The results clearly demonstrated that compounds **6j**, **6m** and **6n** exhibited significant antibacterial activity against bacterial strains. The results of the molecular docking studies supported the antibacterial activity of the synthesized compounds.

Keywords: Xanthenes, Chroman ring, Microwave irradiation, Antimicrobial activity, Antioxidant activity, Molecular docking;

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