



**Synthesis, Crystal Growth and Characterization of  
(E)-3-(4-(dimethylamino)phenyl)-1-phenylprop-2-en-1-one:  
An Organic Crystal**

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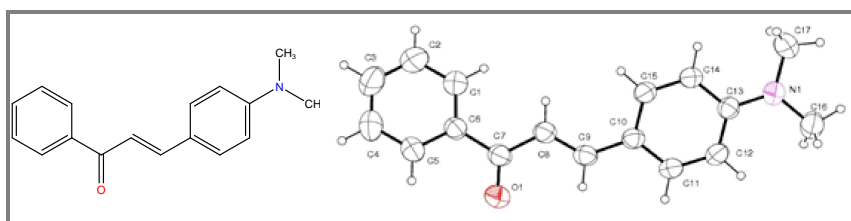
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**ABSTRACT**

Chalcone based materials are widely used in many industrial applications. Chalcone based single crystals, (E)-3-(4-(dimethylamino)phenyl)-1-phenylprop-2-en-1-one(Crystal) were synthesized and grown as single crystals by slow evaporation solution growth technique in ethanol. The structures of the grown crystals were solved and refined by single crystal XRD and this demonstrates that crystal (E)-3-(4-(dimethylamino)phenyl)-1-phenylprop-2-en-1-one,  $C_{17}H_{17}NO$ , was synthesized and characterized by infrared, NMR, HR-MS spectral studies. The compound crystallizes in monoclinic space group C2/c with unit cell parameters  $a=13.1956(11)$  Å,  $b=11.8396(9)$  Å,  $c=9.5664(6)$  Å,  $Z=4$ , and  $V=1408.55(18)$  Å<sup>3</sup>. The crystal packing is mainly stabilized by C-H... π interaction. There are no significant intermolecular interactions beyond van der Waals forces observed in the solid state equal to structure of the compound.

**Graphical Abstract**



The structure aspects of the newly synthesized (E)-3-(4-(dimethylamino)phenyl)-1-phenylprop-2-en-1-one(Crystal).

**Keywords:** Characterization, X-ray diffraction, Chalcones, Molecular structure.