



**Structural Study and Antibacterial Activity of a Benzophenone Derivative:  
[2-Bromo-4-(2-chloro-benzoyl)-phenoxy]-acetic acid ethyl ester**

**Latha Rani N<sup>1</sup>, Prashanth T<sup>2,3</sup>, Zabiulla<sup>2</sup>, Sridhar M.A<sup>1\*</sup> and Shaukath Ara Khanum<sup>2</sup>**

1. Department of Studies in Physics, Manasagangotri, University of Mysore, Mysuru 570 006, Karnataka, **INDIA**
2. Department of Chemistry, Yuvaraja's College (Autonomous), University of Mysore, Mysuru 570 005, Karnataka, **INDIA**
3. Department of Chemistry, The National Institute of Engineering (Autonomous), Manandavadi Road, Mysuru 570 008, Karnataka, **INDIA**

Email: [mas@physics.uni-mysore.ac.in](mailto:mas@physics.uni-mysore.ac.in)

Accepted on 18<sup>th</sup> May 2016

---

**ABSTRACT**

The title compound  $C_{17}H_{14}BrClO_4$  was synthesized by refluxing a mixture of (3-Bromo-4-hydroxy-phenyl)-(2-chloro-phenyl)-methanone and ethyl chloroacetate in dry acetone and anhydrous potassium carbonate. Elemental analysis confirms the formation of the compound in the stoichiometric proportion. The compound was also characterized by FT-IR spectral analysis,  $^1H$  NMR spectral analysis. Single crystal X-ray diffraction reveals that the compound crystallizes in monoclinic crystal system with space group  $P 2_1/c$ . The unit cell parameters are  $a=7.4733(6) \text{ \AA}$ ,  $b=32.205(3) \text{ \AA}$ ,  $c=7.5203(6) \text{ \AA}$ ,  $\beta=110.110(3)^\circ$ . In addition to this, the compound was screened for its anti-bacterial activity against two gram-positive and two gram-negative bacteria.

**Keywords:** Benzophenone, *Bacillus subtilis*, *Staphylococcus aureus*, *Escherichia coli*, *Proteus vulgaris*.

---