



## Original Research Article

# Synthesis of 2-chloro-benzamides for evaluation antimicrobial and disinfectant activity: Part-I

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## ABSTRACT

2-Chlorobenzamide derivatives have been synthesized and claimed in this research study. The compound SG1 and SG2 were synthesized by known methods Ethylene diamine and isopropyl amine was dissolved in ethanolic 1 N NaOH separately and to it 2-Chlorobenzoyl chloride was added. The products SG1 and SG2 were collected respectively.

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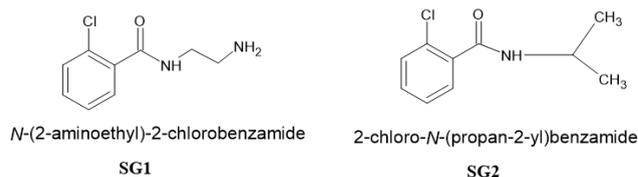
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## 1. Introduction

Benzamide derivatives are known for its versatile medicinal properties.<sup>1</sup> Some of the pharmacological properties of benzamide derivatives include antipsychotic,<sup>2</sup> antihypertensive,<sup>3</sup> antibacterial<sup>4</sup> and antimicrobial<sup>5</sup> properties. The structure of the claimed compounds has been shown in Figure 1. The synthesis of benzamides have been reported by many authors.<sup>6</sup>

## 2. Materials and Methods

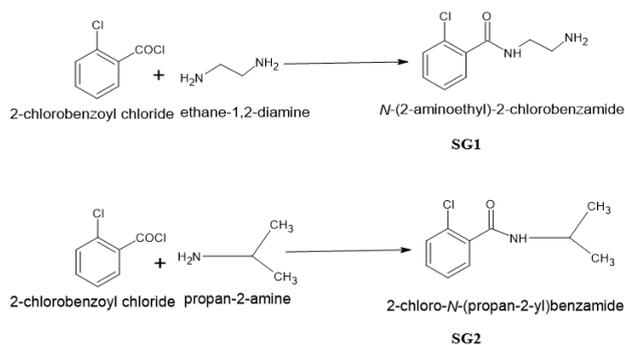
TLC was performed on 524nm Merk TLC plates. All chemicals were of synthetic grade and 98% purisis grade. TLC was eluted with 3 different solvents to check the purity of the compounds and visualized in Iodine chamber and further in UV chamber. The <sup>1</sup>H-NMR was performed on Bruker 400 MHZ NMR before which FT-IR was performed on Perkin Elmer spectrophotometer. The synthetic scheme for the claimed compounds has been shown in Figure 2.



**Figure 1:** Compounds SG1 and SG2

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**Figure 2:** Synthetic Scheme for compound SG1 and SG2

- FT-IR** ( $\lambda$ ,  $\text{cm}^{-1}$ ): 3439.6, 3102.9, 3097.8, 3023.5, 2952.4, 1718.8, 1584.8, 1566.3, 1489.0, 1486.2, 1398.6, 1239.6, 1222.2, 1192.9, 1171.1, 929.0, 893.0, 884.5, 1222.2, 1192.9, 11717.1, 929.0, 893.0, 884.5, 786.6, 712.5, 697.0
- $^1\text{H-NMR}$**  ( $\delta$  shift in ppm): 2.83 (2H, t,  $J = 7.2$  Hz), 3.47 (2H, t,  $J = 7.2$  Hz), 7.32-7.59 (3H, 7.39 (ddd,  $J = 8.1, 7.6, 1.4$  Hz), 7.51 (ddd,  $J = 8.4, 7.6, 1.5$  Hz), 7.53 (ddd,  $J = 8.4, 1.4, 0.5$  Hz)), 7.90 (1H, ddd,  $J = 8.1, 1.5, 0.5$  Hz)
- 2-chloro-N-(propan-2-yl) benzamide (SG2)**: The procedure for the SG1 was repeated and in place of ethylene diamine, isopropyl amine was used. Rest of the procedure remains same.
- FT-IR** ( $\lambda$ ,  $\text{cm}^{-1}$ ): 3459.5, 3436.1, 3384.5, 3114.3, 3098.6, 3088.2, 3076.0, 2934.3, 1743.0, 1584.3, 1570.5, 1551.5, 1448.0, 1450.0, 1492.2, 1149.2, 1072.1, 1023.3, 939.6.
- $^1\text{H-NMR}$**  ( $\delta$  shift in ppm): 1.17 (6H, d,  $J = 6.8$  Hz), 4.20 (1H, sept,  $J = 6.8$  Hz), 7.32-7.59 (3H, 7.39 (ddd,  $J = 8.1, 7.6, 1.4$  Hz), 7.51 (ddd,  $J = 8.4, 7.6, 1.5$  Hz), 7.53 (ddd,  $J = 8.4, 1.4, 0.5$  Hz)), 7.90 (1H, ddd,  $J = 8.1, 1.5, 0.5$  Hz).

### 3. Results and Discussion

The compounds complied with IR and NMR spectral data and confirmed to be synthesized.

### 4. Conclusion

From the IR and  $^1\text{H-NMR}$  data of the compounds, it was confirmed that the compounds were synthesized in Part-I of this paper. Further the evaluation of the compounds shall be done in Part-II of the paper.

### 5. Source of Funding

None.

### 6. Conflict of Interest

None.

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