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# Synthesis, Characterization, Biological Screening of 5-Bromo-Benzofuranyl Aryl Ureas and Carbamates

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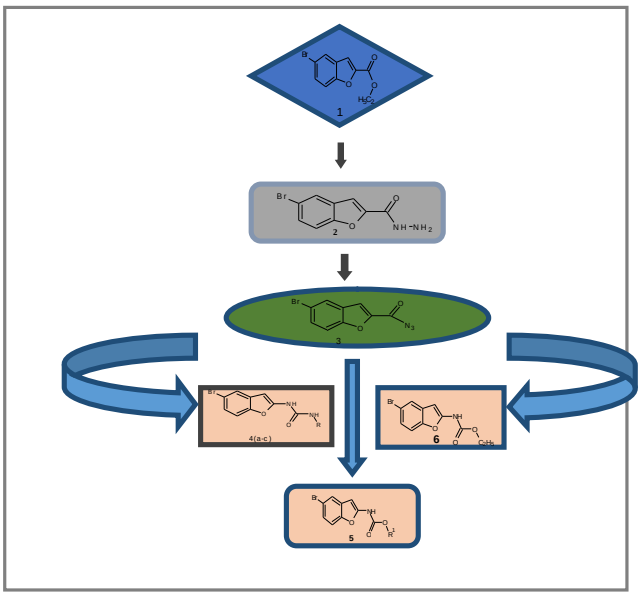
## ABSTRACT

*The present work is carried to construct biologically important 5-Bromo- benzofuran aryl ureas. The benzofuran ring was constructed by reacting bromosalicylaldehyde with diethyl bromomalonate in the presence of dry acetone and anhydrous potassium carbonate to obtain 5-Bromo-benzofuran-2-ethyl carboxylate* ***(1)****. The obtained ester* ***(1)*** *was converted into corresponding hydrazide* ***(2)*** *by treating with hydrazine hydrate. The compound (2) which was then converted into 5-Bromo- benzofuran-2-carbonyl azide* ***(3)*** *by treating it with sodium nitrite in dioxan and acetic acid, the compound* ***(3)*** *was converted into5-bromobenzofuranyl aryl ureas* ***(4a-e)*** *after treating it with primary amines and anhydrous toluene. 5-Bromobenzofuranyl aryl carbamate* ***(5)*** *and ethyl carbamate* ***(6)*** *were also synthesized by treating compound* ***(3)*** *with phenol in toluene and ethanol respectively. All the compounds synthesized were in agreement with the assigned structure which was supported by spectral and analytical data. All the compounds synthesized were screened for their antibacterial, antifungal and calf thymus DNA cleavage activities. Some of the compounds have exhibited moderate to appreciable biological activity.*

## Graphical Abstract



**Keywords:** Benzofuran,hydrazide, Carbonyl azide, Aaryl ureas, Carbamate, Antibacterial activity.