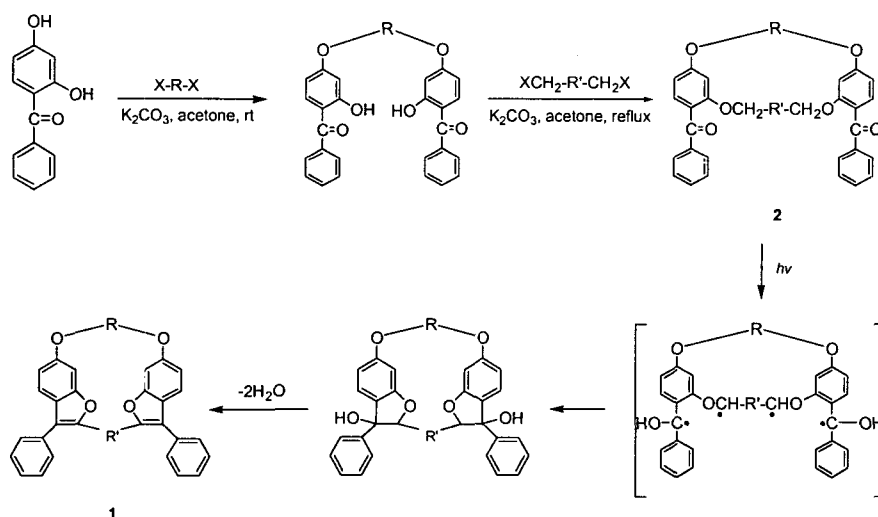


SYNTHESIS OF NOVEL BENZOFURAN-CONTAINING CYCLOPHANES UTILIZING PHOTOCYCLIZATION REACTION

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The design and synthesis of medium- and large-sized ring systems is an area of current interest in supramolecular chemistry. In particular, cyclophanes, macrocycles containing aromatic groups, represent the central class of synthetic receptors in molecular recognition due to the hydrophobicity and π -stacking interactions of their aromatic groups. Here, we describe the synthesis of novel cyclophanes **1** containing two benzofuran rings *via* photocyclization reaction. 2,4-Dihydroxybenzophenone was utilized as connecting unit: reaction with one equivalent of α, ω -dihaloalkane (X-R-X) under a mild condition provided a dimer tethered by R selectively at *p*-hydroxyl position of 2,4-dihydroxybenzophenone. Further reaction with one equivalent of α, ω -dihaloalkane (XCH₂-R'-CH₂X) yielded macrocycles **2**. Photocyclization of **2** *via* intramolecular δ -hydrogen abstraction followed by dehydration afforded novel cyclophanes **1**.



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