

Board-Like Mesogenic Bis(borondifluoride) Complexes Derived from Tetraketones

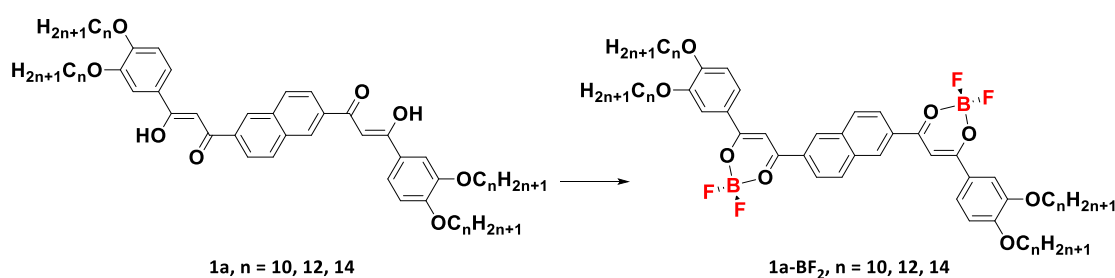
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Complexes or adducts containing borondifluoride (BF_2) have received much attention during the past decades. Most of these known BF_2 complexes were [O,O]-chelated and less common were [N,O]-coordinated. In contrast, rarer complexes coordinated to [N,N]-chelating ligands, such as β -diketiminates and formazanates were known. Among the known complexes, the majority of boron complexes were coordinated with O,O-chelating ligands, such as α , β -diketonate and α , β , γ -triketonate. Recently, much attention has been paid to such BF_2 -[O,O] complexes, when studied in applications of two-photo absorbing molecules,¹ luminescent materials,² sensors³ and near-IR probes.

In this work, a new series of bis(borondifluoride) complexes **1a-BF₂** derived from tetraketones **1a** was prepared, characterized and studied. All compounds were characterized by ¹H and ¹³C NMR spectroscopy, elementary analysis, polarized optical microscope, differential scanning calorimeter and their structures confirmed by X-ray diffraction methods. Both **1a** and **1a-BF₂** show hexagonal columnar(Col_h) liquid crystal phases.



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