

# **SYNTHESIS OF TWO NEW MESOGENIC HOMOLOGOUS SERIES OF LIGANDS AND THEIR METALLOMESOGENS CONTAINING CU(II) ATOM**

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Two new mesogenic homologous series of ligands 4-n-alkoxy-2-hydroxy benzylidene-2'-aminonaphthalenes (**I**) and 4(4'-n-alkoxybenzoyloxy)-2-hydroxy benzylidene-2''-amino naphthalenes (**II**) as well as their metallomesogens of higher homologues containing Cu(II) atom have been synthesized. In series I, n-heptyloxy and n-octyloxy derivatives are non-mesogenic whereas rest of the higher members synthesized exhibit monotropic nematic mesophase. In series II, all the members synthesized exhibit enantiotropic nematic mesophase. All the metallomesogens of series I synthesized exhibit monotropic smectic A mesophase except n-octyloxy derivative which is non-mesogenic whereas metallomesogens of series II exhibit enantiotropic nematic phase up to n-tetradecyloxy derivative as well as n-tetra decyloxy and n-hexadecyloxy derivatives exhibit enantiotropic smectic C mesophase. All the members of series II and their metallomesogens exhibit mesophases with good phase length and higher thermal stability as compared to series I and their metallomesogens, respectively. The mesomorphic properties of both the present series and their metallomesogens are compared with each other and with the other structurally related series to evaluate the effect of naphthalene moiety on mesomorphism.

All the ligands and complexes have been characterized by combination of elemental analysis and standard spectroscopic methods. Mesomorphic properties of all the ligands and complexes were investigated on a Leitz Laborlux 12 POL microscope provided with a heating stage.