

# Symmetrical and difunctional substituted cobalt phthalocyanines with benzoic acids fragments: Synthesis and catalytic activity

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## Abstract

© 2017 World Scientific Publishing Company Difunctional and symmetric phthalonitriles were synthesized by nucleophilic substitution of bromo and nitro-group in 4-bromo-5-nitro-phthalonitrile for residues 4-amino-, 4-hydroxyl- and 4-sulfanyl benzoic acid. Symmetrical and difunctional substituted cobalt phthalocyanines were obtained by template synthesis based on mentioned phthalonitriles. Their spectral properties and catalytic activity in aerobic oxidation of sodium (Formula presented.), (Formula presented.)-carbomodiolate were investigated.

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## Keywords

4-bromo-5-nitro-phthalonitrile, benzoic acids, catalysis, cobalt phthalocyanines, oxidation, synthesis