

SYNTHETIC APPLICATIONS OF REACTIONS OF N-SUBSTITUTED  
PYRROLES AND INDOLES WITH PALLADIUM ACETATE

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A new method for synthesizing *o*-(2-pyrrolyl)- and *o*-(2-indolyl)-benzoic acids and 2,2'-bipyrroles via oxidation of *N*-substituted pyrroles and indoles by palladium acetate is described. These compounds are of interest in connection with the existence of biologically active substances, e.g. *o*-aminobenzoic acid (vitamin L<sub>1</sub>) and prodigiosin.

Treatment of 1-acylpyrroles with palladium acetate in acetic acid at 110°C for 8-15 hr under N<sub>2</sub> afforded ring-closed compounds (1) and 2,2'-dimeric compounds (2). Under similar conditions oxidation of 1-acylindoles gave (5) and (6), but no 2,2'-dimeric compounds were obtained. Treatment of 1 and 5 with *t*-BuOK in *t*-BuOH at 82°C for 12-15 hr under N<sub>2</sub> afforded (3) and (7), respectively. Under similar conditions 2 reacted with *t*-BuOK in *t*-BuOH to give (4). Oxidation of 2-acyl-1-methylpyrroles by palladium acetate gave (8) and (9).

