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# 2'-(3'',4''-Methylenedioxyphenyl)-imidazo[4',5'-*f*]-2,9-dimethyl-1,10-phenanthroline

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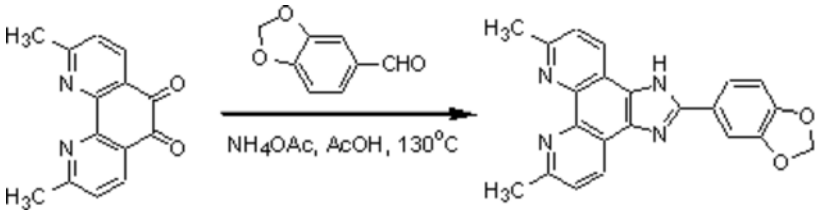
**Keywords:** polypyridyl ligand; 2,9-dimethyl-1,10-phenanthroline; imidazole




2,9-dimethyl-1,10-phenanthroline-5,6-dione was synthesized by the procedure for the preparation of 1,10-phenanthroline-5,6-dione [1]. A mixture of 3,4-methylenedioxy- benzaldehyde (0.45 g, 3 mmol), 2,9-dimethyl-1,10-phenanthroline-5,6-dione (0.714 g, 3 mmol), ammonium acetate (4.62 g, 60 mmol) and glacial acetic acid (30 $cm^3$) was refluxed with stirring at 130 $^oC$ for 2 hours. The cooled solution was filtered, diluted with water (ca, 40 $cm^3$) and neutralized with concentrated aqueous ammonia. The orange precipitate was collected and purified by column chromatography on alumina with ethanol-toluene (16:1 v/v) as eluent. The title compound was obtained as amorphous yellow solid (0.52 g), Yield: 47%.

Elemental analysis: Found C, 71.48; H, 4.13; N, 14.97. Calc for $C_{22}H_{16}N_4O_2$ C, 71.73; H, 4.38; N, 15.21.

$^1H$ NMR (500 MHz, $d_6$-DMSO): δ14.1 (br, s, 1H), 8.90 (d, 2H), 7.84 (m, 2H), 7.81 (d, 1H), 7.79 (d, 1H), 7.18 (d, 1H), 6.09 (s, 2H), 2.50 (s, 6H).

IR (KBr, $cm^{-1}$): 542(w), 629(w), 731(w), 818(s), 871(w), 931(m), 1038(s), 1102(w), 1242(s), 1351(m), 1445(s), 1472(s), 1497(s), 1585(m), 1623(w), 2776(w), 2890(w), 3067(w).

FAB-MS ($[M+1]^+$): 369.

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**Reference**
1. M. Yamada, Y. Tanaka, Y. Yoshimoto, S. Kuroda, and I. Shimao, *Bull. Chem. Soc. Jpn.* **1992**, 65, 1006.