

Benzopyran derivatives R 0350

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Construction of Fused Thiophene Ring System via Intramolecular CH Arylation by Palladium Catalysis. — The intramolecular CH-arylation on the thiophene ring occurs smoothly by the catalysis of palladium, affording the fused tricyclic thiophene derivatives (IV) and (IX). Precursors (III) and (VIII) are easily obtained by using the Williamson ether synthesis with halomethylthiophene (I) and phenols (II) or benzylic alcohol (VII). Additionally, the fused thiophene (IVa) undergoes further intermolecular CH-arylation in the presence of the AgNO₃/KF system and a palladium catalyst. — (MORI*, A.; ARAI, N.; HATTA, T.; MONGUCHI, D.; Heterocycles 80 (2010) 1, 103-108; Dep. Chem. Sci. Eng., Fac. Eng., Kobe Univ., Nada, Kobe 657, Japan; Eng.) — H. Hoennerscheid

A): K_2CO_3 , $Pd(O-Ac)_2/PPh_3$ (cat.), DMSO, 100°C

$$IVa = \frac{3 \text{ equiv. } F_3C - I \text{ (V)}}{\text{AgNO}_3/\text{KF, PdCl}_2(\text{PPh}_3)_2 \text{ (cat.), DMSO, } 100^{\circ}\text{C}} \\ F_3C = VI \text{ 40\%}$$