

Palladium-Catalyzed Coupling Reaction of 3-Bromo Benzo[*b*]furan, -thiophene and -selenophene 2-Carboxaldehyde. Preparation of Tetracyclic Heteroaromatic Derivatives*

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3-Oxo-2,3-dihydrobenzo[*b*]furans, -thiophenes and -selenophenes **1a–c** afforded the bromo-aldehydes **2** under Vilsmeier-Haack-Arnold conditions. Palladium-catalysed aryl-aryl coupling of **2** with *o*-formyl-phenylboronic acid allowed the formation of dialdehydes **3** which underwent McMurry cyclisation or pinacol condensation to yield polycyclic aromatic derivatives **4** or the dihydroxylated compounds **5**.

Key words: Vilsmeier-Haack-Arnold Reaction, Suzuki Coupling, McMurry Reaction, Polycyclic Heteroaromatic Derivatives