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123. Representative procedure for the SmI_2 promoted three-component coupling reactions: Under an atmosphere of argon, a deep blue SmI_2 solution (0.1 M) was prepared by treatment of Sm (661 mg, 4.4 mmol) with 1,2-diiodoethane (1.01 g, 3.6 mmol) in HMPA[10] (2.8 mL, 16 mmol) and anhydrous THF (32 mL) for 1.5 h at room temperature. To the SmI_2 solution (cooled in an ice bath) were added a THF solution (3 mL) of methyl thiophene-2-carboxylate (142 mg, 1 mmol) and *N*-methylindole-2-carbaldehyde (159 mg, 1 mmol). The reaction mixture was stirred at 0 °C for 45 min, and then at room temperature (27 °C) for 45 min. A THF solution (2 mL) of 4-methoxyacetophenone (180 mg, 1.2 mmol) was added at 0 °C, and the mixture was stirred at õ27 °C for additional 10 h. The reaction was quenched by addition of saturated aqueous NH_4Cl solution (0.1 mL). The mixture

was passed through a short silica gel column by rinse with EtOAc/hexane (1:1). The filtrate was concentrated, and chromatographed on a silica gel column by elution with EtOAc/hexane (3:7) to give the desired three-component coupling product 4 (349 mg, 77%) as a mixture of isomers as shown by the ^{1}H NMR analysis.

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