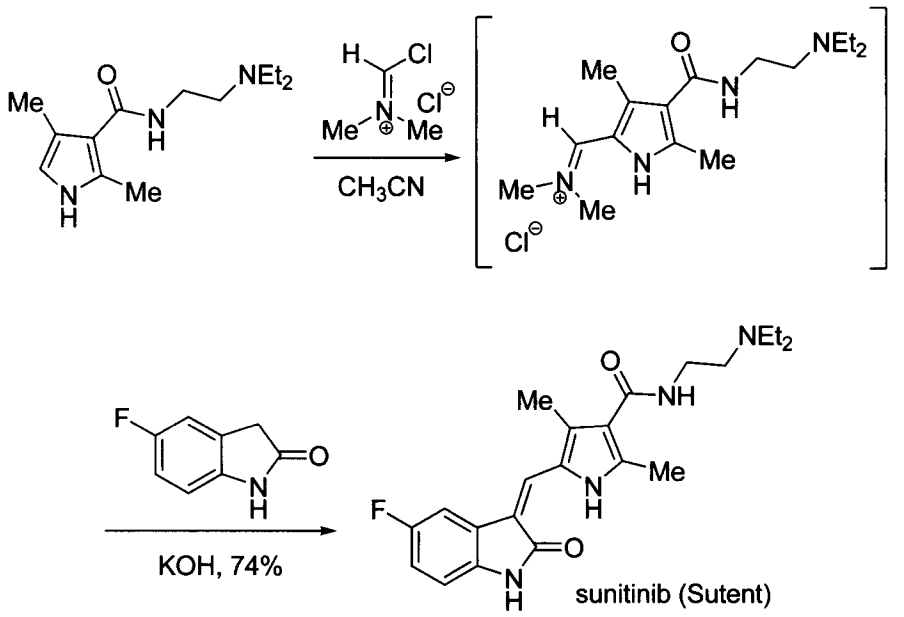
The process chemists developed an ingenious route to couple 5-fluorooxindole with the pyrrole-containing right-hand piece.[62] As shown below, pyrrole was added to a solution of the Vilsmeier reagent in acetonitrile at room temperature. Following the completion of the formylation reaction, the resulting intermediate was treated with 5-fluorooxindole and pulverized KOH, which led to precipitation of the desired product. Filtration of the reaction mixture afforded the sunitinib free base in 74% yield.



Ropinirole (Requip), a prejunctional dopamine receptor agonist, is used for the treatment of Parkinson's disease and restless legs syndrome (RLS). It acts as a dopamine D_2, D_3, and D_4 receptor agonist with highest affinity for D_3. Ropinirole also exhibits weak activity at the 5-HT_2 and α2-adrenergic receptors and shows little affinity for the 5-HT_1, benzodiazepine, GABA, muscarinic, and α1- and β-adrenergic receptors. The syntheses of ropinirole provide ample examples for oxindole chemistry. In SmithKline & French's original synthesis,[63] the *o*-methyl-nitrobenzene compound was deprotonated and quenched by diethyl oxalate. The resulting α-ketoacid was decarboxylated under basic oxidative conditions. The nitro group was reduced using hydrogenation and the resulting amino acid subsequently cyclized *in situ* to deliver ropinirole.