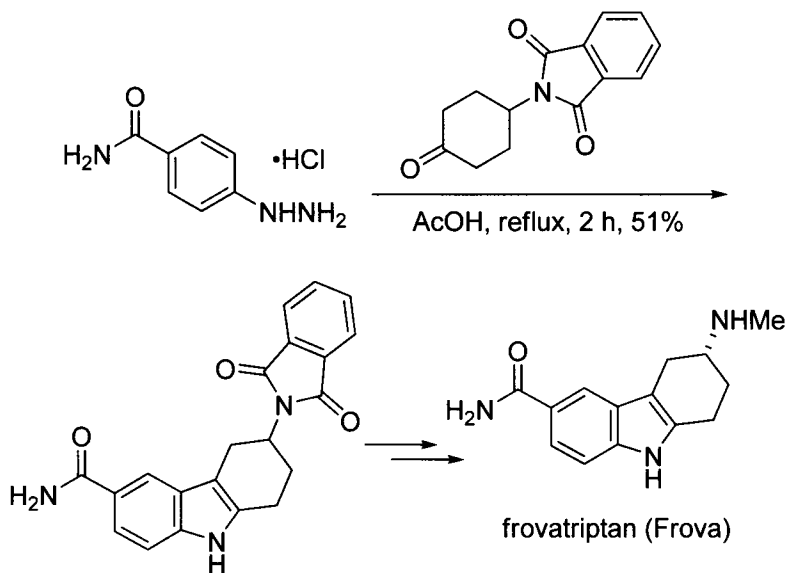


Not surprisingly, the Fischer indole synthesis is the workhorse in medicinal chemistry. For instance, frovatriptan (Frova), a migraine treatment by SmithKline/Elan, was assembled using the Fischer indole synthesis.^{12,13} Condensation of HCl salt of *p*-hydrazinylphenylamide with the phthalimide cyclohexanone in refluxing acetic acid yielded the indole in 51% yield. The indole was then manipulated to afford frovatriptan in three additional steps. Frovatriptan belongs to a group of medicine called triptans, which are a group of indole-containing serotonin receptor (5-HT_{1B/1D}) agonists used to treat migraines.



A better understanding of this mechanism aids our appreciation of how the reaction works, and helps us design novel reactions. The Japp-Klingemann hydrazone synthesis is such an example. A hydrazone is an