Nitrogen heterocycles are an essential structural unit found in a variety of biologically active molecules. Consequently, numerous convergent synthetic strategies involving two or three unique components have received great attention. Among potential reaction partners, olefins are perhaps the most abundant, general and desirable. In the first part of my talk, a Rh(III)-catalyzed formal [4+1] approach to pyrrolidines from unactivated terminal alkenes and nitrene sources will be discussed. The second part of the talk will be about direct regio- and diastereoselective synthesis of delta-Lactams from acrylamides and unactivated alkenes initiated by Rh(III)-Catalyzed C-H Activation.