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Synthesis of Heterocyclic Primary Explosives DAVID CHAVEZ, Los Alamos National Laboratory, ELLEN DENNING, Purdue University — Primary explosives serve a critical role in the initiation train for many explosive applications. Importantly, primary explosive must possess certain sensitivity properties in order to function in the appropriate manner. Unfortunately, some materials, such as PETN, have issues that may make function and lifetimes challenging in certain applications. This creates this need for novel primary explosives that alleviate these issues. This presentation will describe the synthesis of several new high nitrogen heterocyclic compounds with applications as energetic materials. We have combined the tetrazine ring system with the triazine ring system, and subsequently attached energetic functional groups, such as the azido group, to the rings to prepared novel polycyclic ring systems. The characterization data of these materials will also be presented.

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