B50 Birch Reduction of Pyrilamine: A New Clandestine Methamphetamine By-Product?

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After attending this presentation, attendees will have learned about compounds that would help identify the method used and possible precursor source of clandestine methamphetamine labs. Several analytical techniques are offered to help drug chemists identify the compounds.

This presentation will impact the forensic community and/or humanity by demonstrating how the Birch reduction method and the indicators that may elucidate the route used in a clandestine lab setting. The information could help law enforcement personnel identify less- restricted pseudoephedrine products that may be targeted for illicit meth production.

The Birch reduction method is a procedure used by some clandestine lab cooks to make illicit methamphetamine. The process requires pseudoephedrine as a precursor, but due to recent legislation placed on the sale of pseudoephedrine products, cooks may look toward veterinary medicine as an alternate source. Pyrilamine maleate is a compound found in conjunction with pseudoephedrine, and when subjected to the Birch reaction, may produce unique by-products. An analytical profile of pyrilamine was generated by gas chromatography (GC) screen, gas chromatography-mass spectrometry (GC-MS), Fourier transform infrared (FTIR) and nuclear magnetic resonance (NMR) tests. The Birch reduction of pyrilamine was conducted using two methods, and the unknown products were distinguished via GC screen, GC-MS, and NMR analyses. Reaction 1 resulted in the loss of the pyridine ring of pyrilamine; the product from reaction two has yet to be determined.

Birch, Reduction, Pyrilamine

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