UNIVERSITY OF MINNESOTA
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Improved method for the synthesis of flurprimidol

A novel method for the synthesis of flurprimidol and other 5-subsituted pyrimidines.

IP Status: US Patent Issued; Issued Patent No. 9,169,216

Applications

- Agrochemicals
- Pharmaceuticals

Key Benefits & Differentiators

- **Cost-effective:** Synthesis bypasses a costly step that requires cryogenic conditions
- **Broadly applicable:** Method can be used to synthesize any 5-subsituted pyrimidine.
- **Faster reaction:** Synthesis is complete in 1 day compared to 4 days with traditional methods
- **Reduced waste:** Generates significantly less organic waste during synthesis

Technology Overview

5-substituted pyrimidines are a key class of heterocyclic compounds used across the agrochemical industry. Notable examples include flurprimidol, ancymidol, and fenarimol - commercial plant growth regulators and fungicides used to control turf grass, ornamental plant growth, and fungal infestations. Despite their utility, the synthesis of these compounds has historically relied on inefficient methods that generate substantial chemical waste and require costly cryogenic conditions, limiting their broader adoption.

Researchers at the University of Minnesota have developed an improved method to synthesize flurprimidol and other 5-subsituted pyrimidines. The new process proceeds in just one day compared to four days with prior methods and avoids the need for cryogenic temperatures, significantly lowering production costs. In addition to being more cost-effective and scalable, the new method also generates less organic waste, making it a cleaner alternative for the industrial synthesis of agrochemicals and other pyrimidine-based compounds.

Phase of Development

TRL: 3-4
Demonstrated on the lab scale.

Desired Partnerships

This technology is now available for:

- License
- Sponsored research
- Co-development

Please contact our office to share your business' needs and learn more.

Technology ID
20110095

Category
Engineering & Physical Sciences/Chemicals
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Researchers

- **Robert Vince, PhD** Director, Center for Drug Design