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Project Title: Floral Anti-senescence Agents for the Ethylene Receptor

Researcher/Institution Information:

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Industry Needs Addressed:

The benefit to the floral industry sought in this proposal is increasing the vase life, transportability, and quality/performance of cut flowers, and will result primarily from the third year's research results. All sectors of the industry will benefit from reduced perishability of their products, but particularly, the opportunities for direct marketing of floral products through electronic commerce will be enhanced by increased transportability at lower cost and with higher quality.

Research Conducted:

Two novel MCP analogues bearing short carbon chains and hydroxyl groups were designed to be more stable and less volatile than MCP. Brief synthetic approaches to each were planned, and the initial execution of the routes has been successful, but the syntheses are not yet complete.

The Bleecker lab has studied the ethylene antagonist action of a small group of other commercially available compounds that the Pirrung group has suggested based on analogy to MCP to have such activity. The data from these experiments are currently being analyzed. They also studied the action of the two enantiomers of a known ethylene antagonist, trans-cyclooctene, which was obtained by the Pirrung lab. This experiment is of interest because of a generally observed feature of biological activity, that in chiral compounds it is attributable to one enantiomer.

Summary of Professional or Published Information:

None