

# *Total Synthesis of Rare Natural and Designed Molecules of Biological and Medical Importance*

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## **Abstract**

This lecture will cover aspects of total synthesis of rare naturally occurring substances of biological and medical importance. Topics will include viridicatumtoxin (a tetracycline type antibiotic, presumably acting through binding to the ribosome), uncialamycin (an enediyne antitumor antibiotic, acting through DNA cleavage), prostaglandin  $\Delta^{12}$ -J<sub>3</sub> (a potent and selective antitumor agent, active against cancer stem cells), and maitotoxin (a potent neurotoxin, acting through binding to calcium ion channels). Aspects of the drug discovery and development process and targeted cancer chemotherapy will also be discussed.

## **References**

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