Chemical Synthesis and Biological Studies of the Rocaglates and Derivatives.

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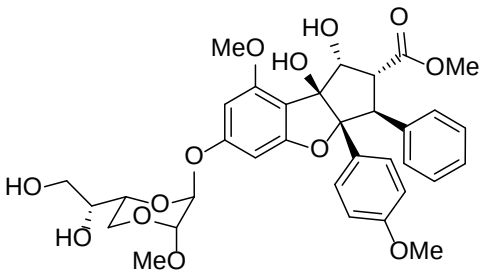
The plant genus *Aglaia* produces a number of secondary metabolites including the cyclopenta[*b*]benzofuran silvestrol. Cyclopenta[*b*]benzofuran natural products possess potent anticancer properties due to modulation of the activity of the RNA helicase eukaryotic initiation factor 4A (eIF4A), which is involved in loading ribosomes onto mRNA templates during translation initiation, a step frequently deregulated in cancer. In this presentation, we will describe our efforts to synthesize silvestrol and rocaglate analogues using photocycloaddition of 3-hydroxyflavones with various dipolarophiles, and evaluation of the rocaglates produced as inhibitors of eukaryotic protein translation.



silvestrol