

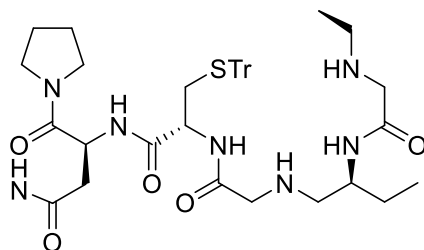
# **Synthesis of the Death-Cap Mushroom Toxin -Amanitin**

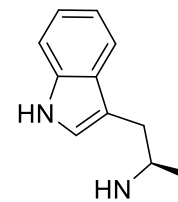
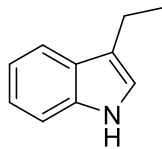
Kaveh Matinkhoo, Alla Pryyma, Mihajlo Todorovic

# Retrosynthesis

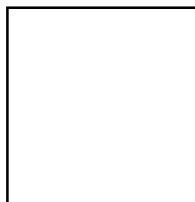
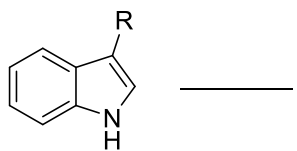
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O  
H

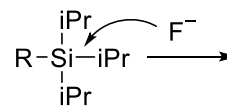




Silyl group protection



Silyl deprotection by fluorine

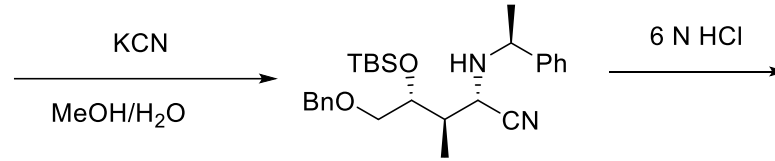
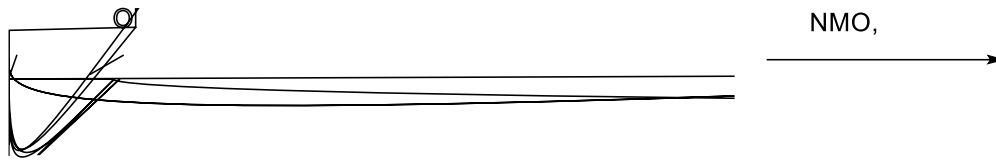


Ir-catalyzed C-H borylation

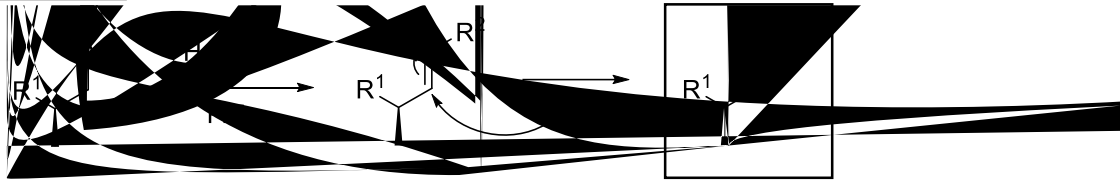


Trityl



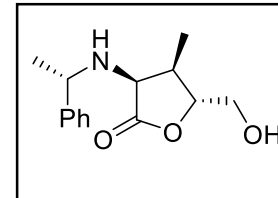
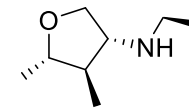


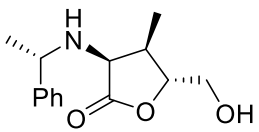
Imination-cyanation



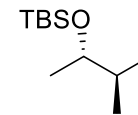
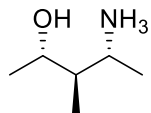
Lactonization

TBSO





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Pd-catalyzed benzylic deprotection

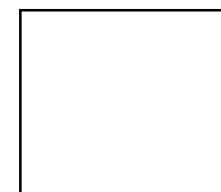
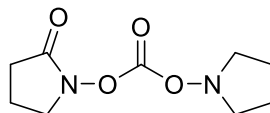


Fmoc protection

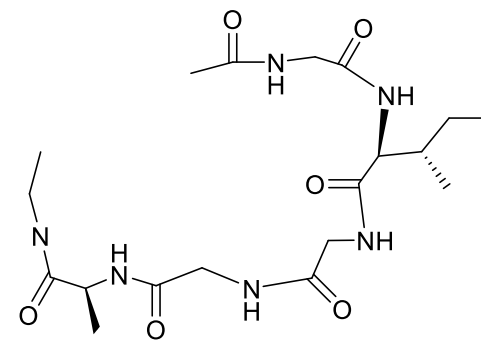
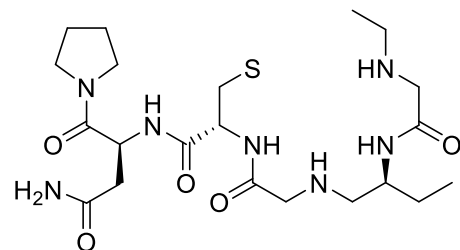
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Succinimidyl activation

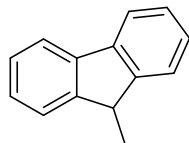




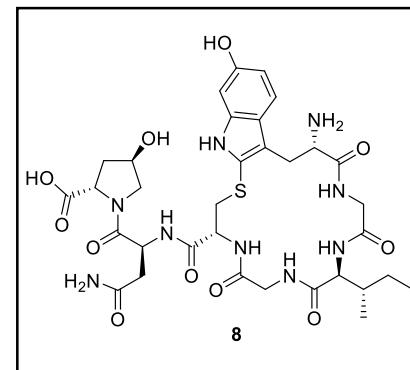
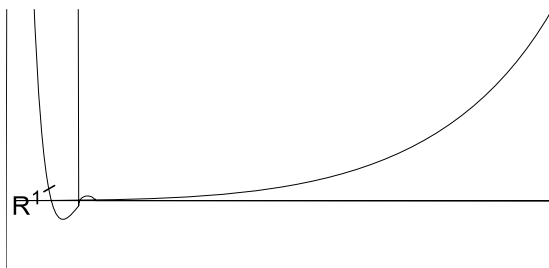


**23a**  
**-Amanitin**

Fmoc deprotection



HATU amide coupling



**8**

mCPBA sulfoxidation

