

[1,2]-Rearrangement of iminium salts provides access to heterocycles with adamantane scaffold

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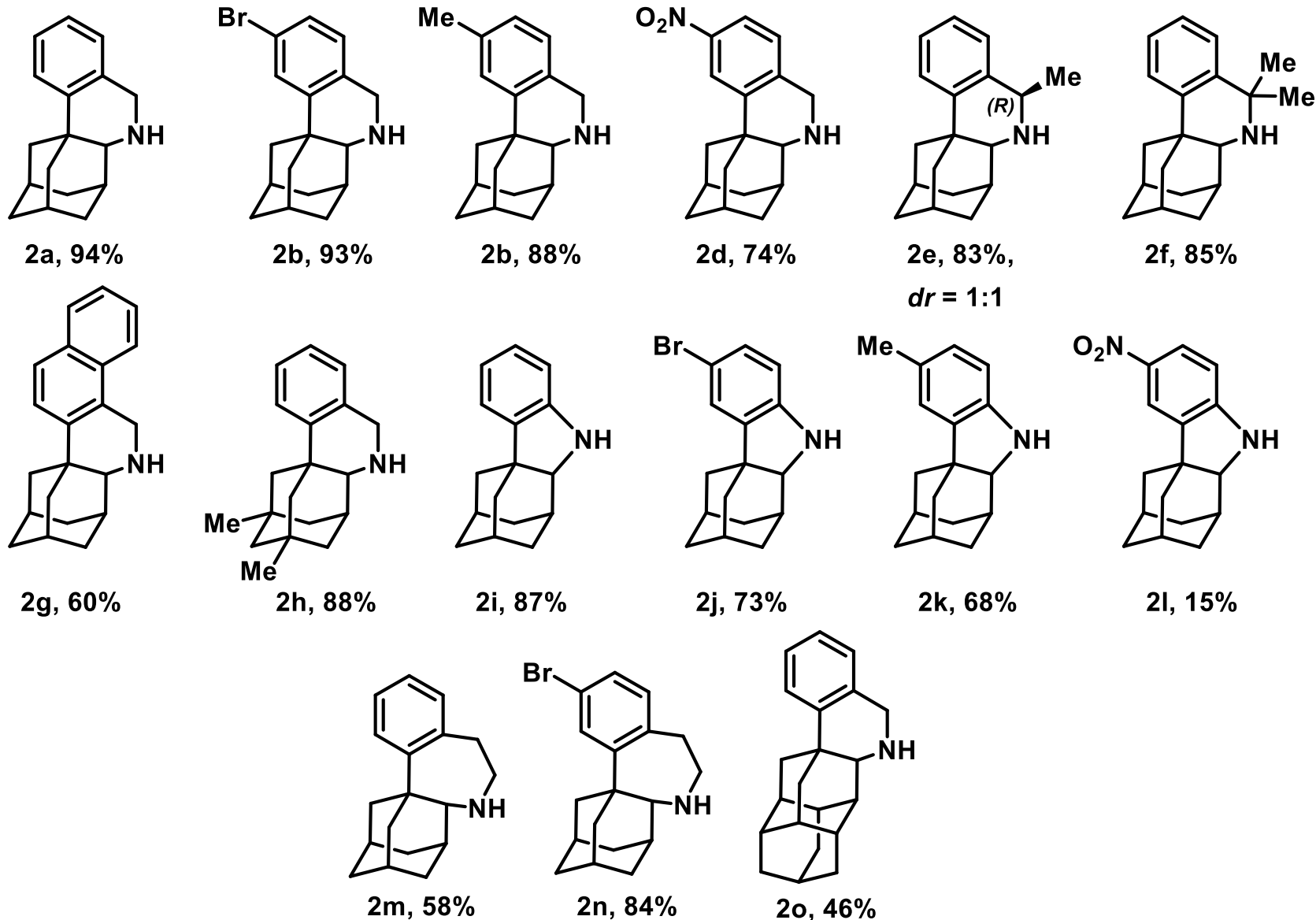
[1,2]-Rearrangement of iminium salts provides access to heterocycles with adamantane scaffold†

Benjamin Zonker,^a Ediz Duman,^a Heike Hausmann,^a Jonathan Becker^b and Radim Hrdina^{*a}

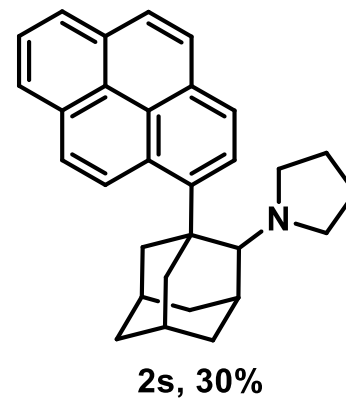
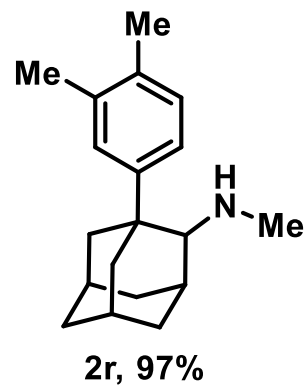
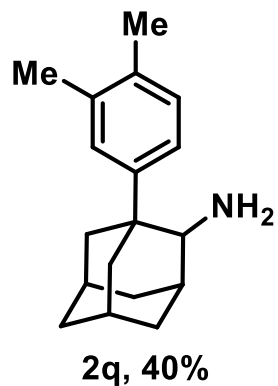
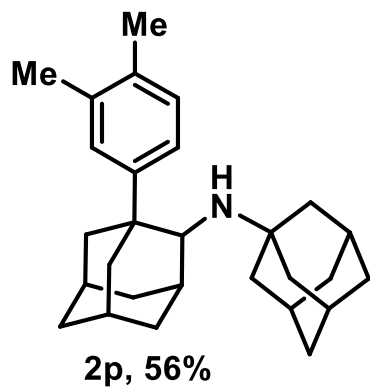
PRS-Group seminar
10th of July 2020

Benjamin Zonker

Final scope – intramolecular

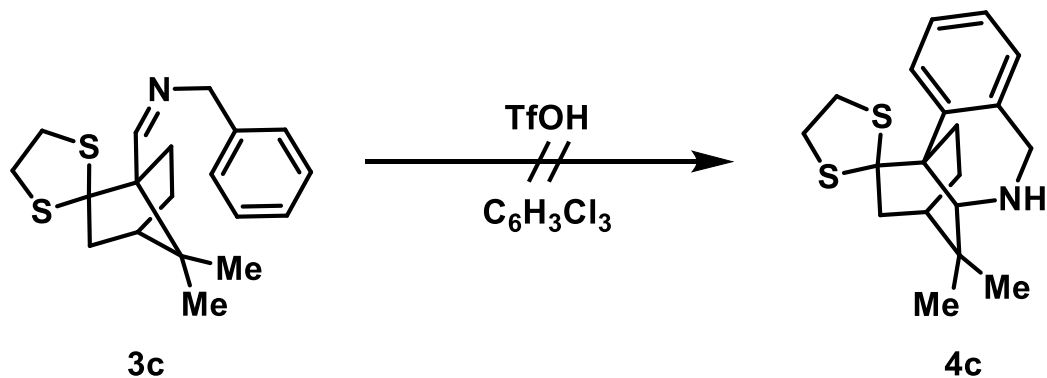
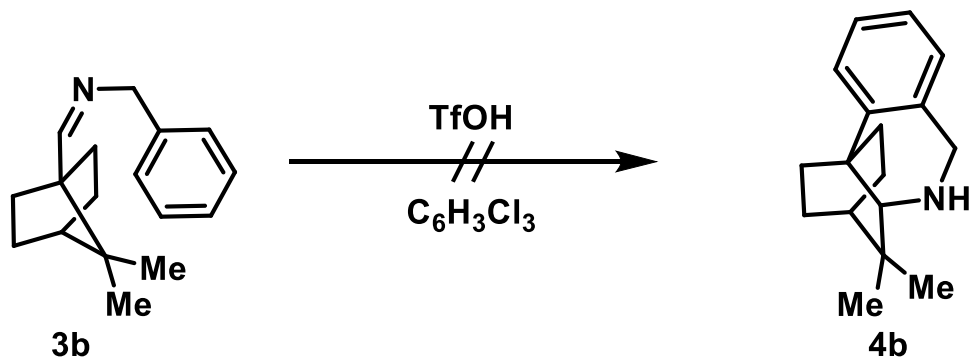
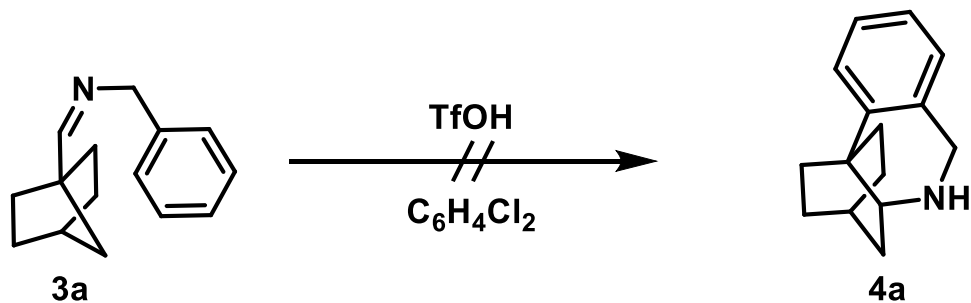


Final scope – intermolecular

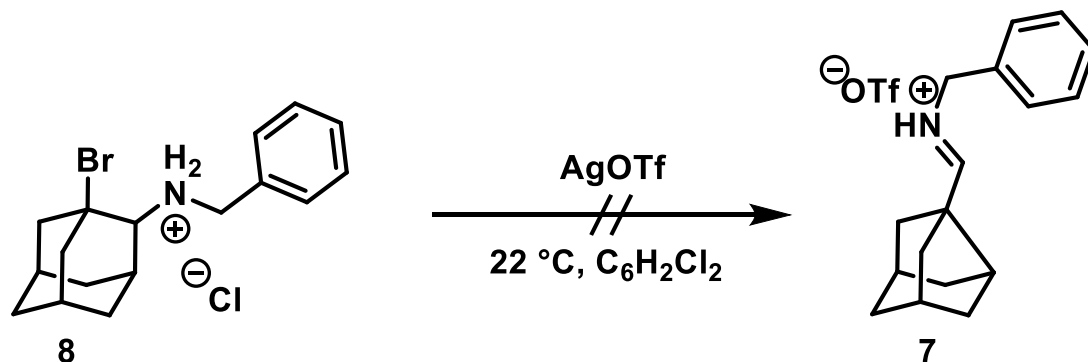
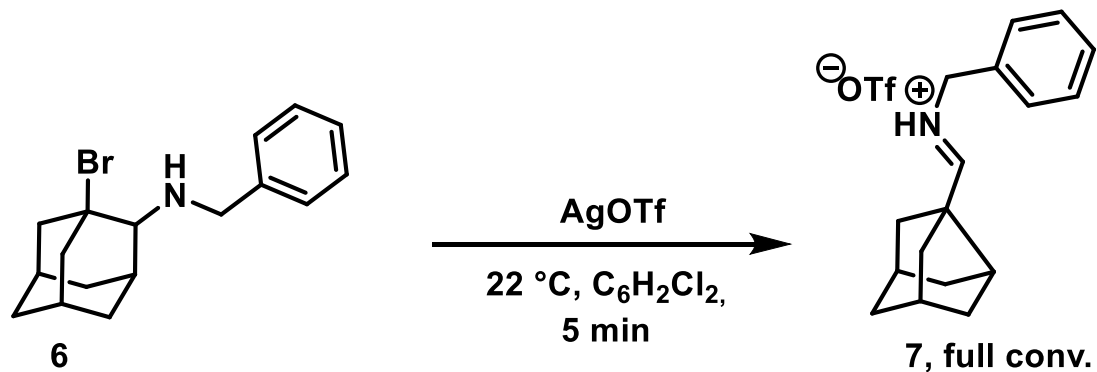
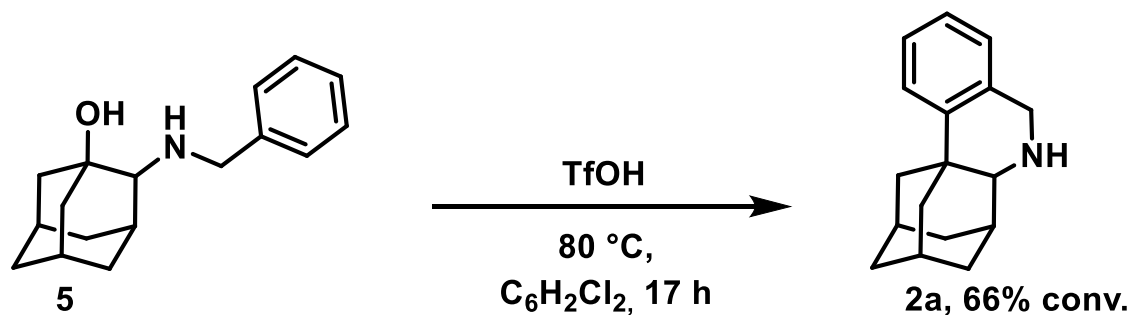


And other caged compounds?

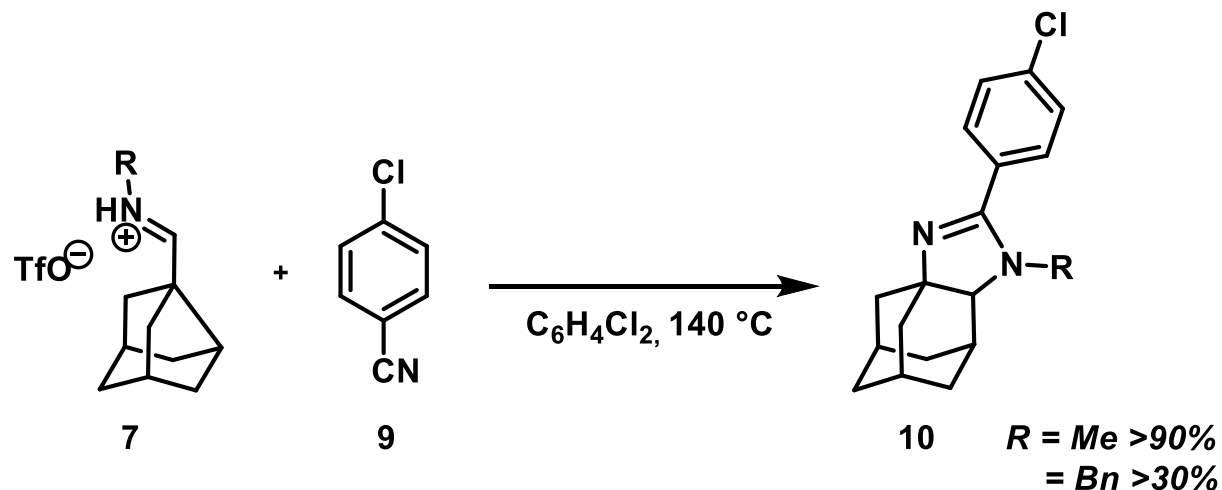
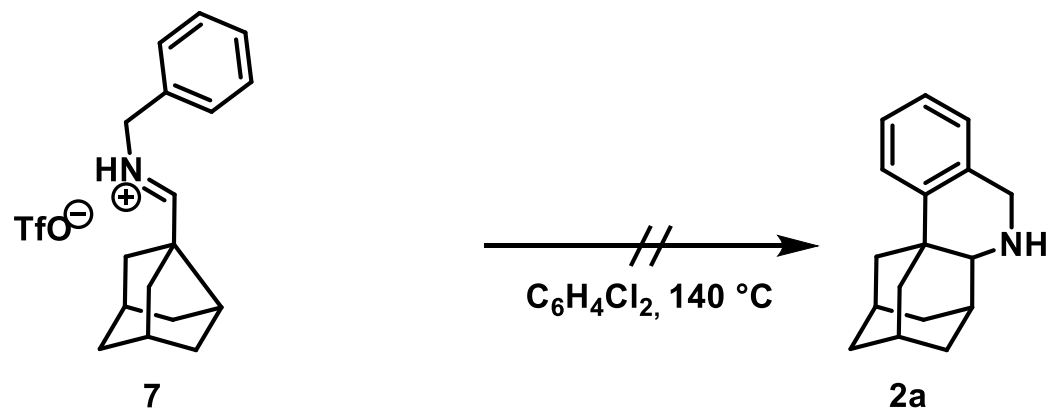
Other caged compounds



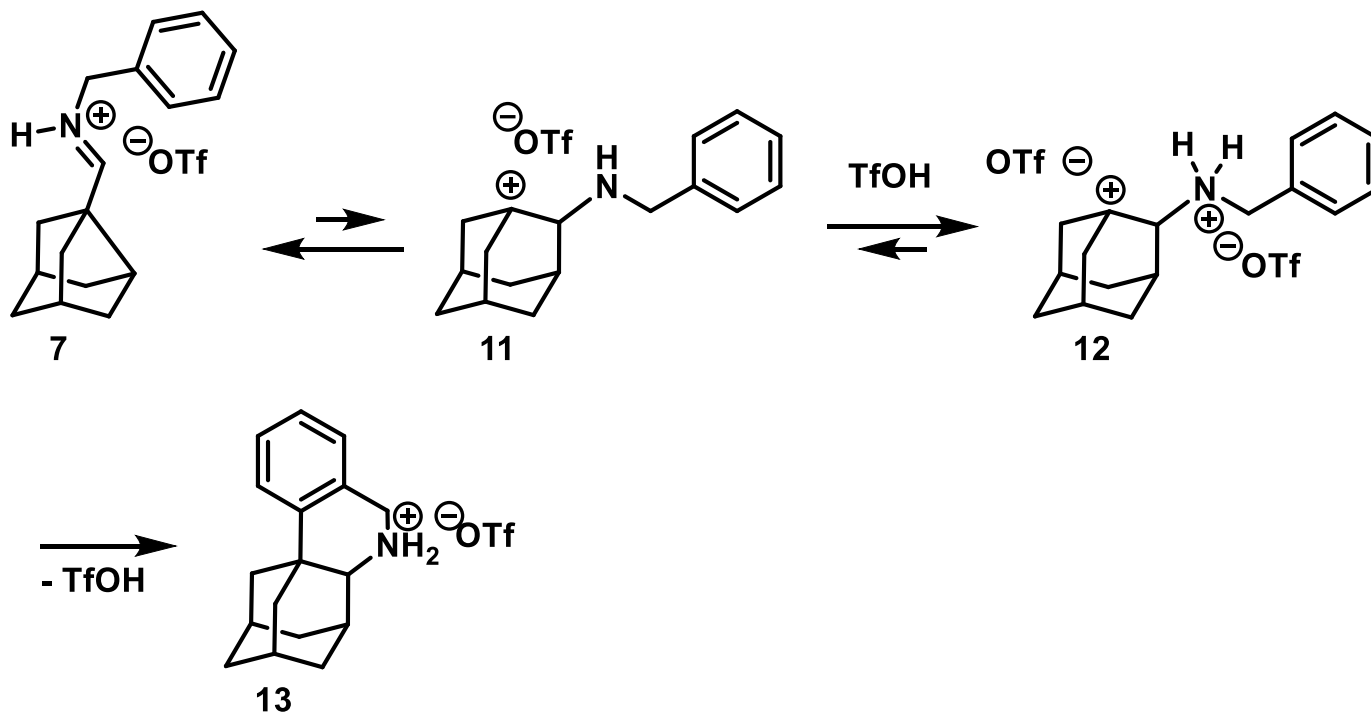
Mechanistic inquiries



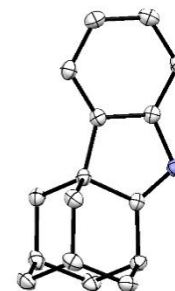
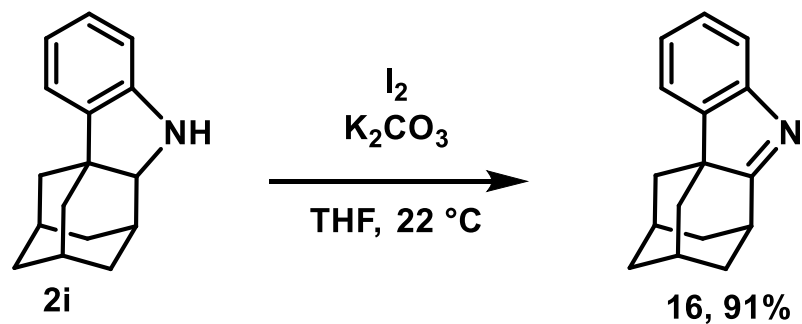
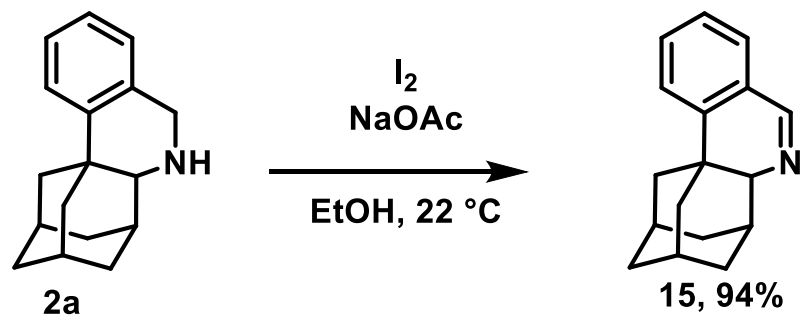
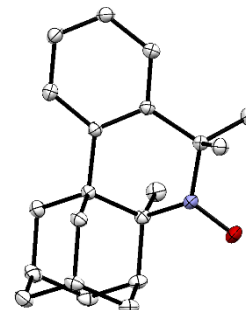
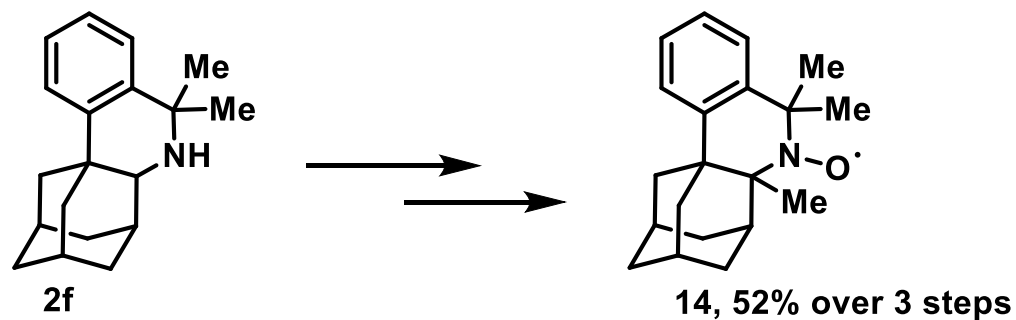
Mechanistic inquiries



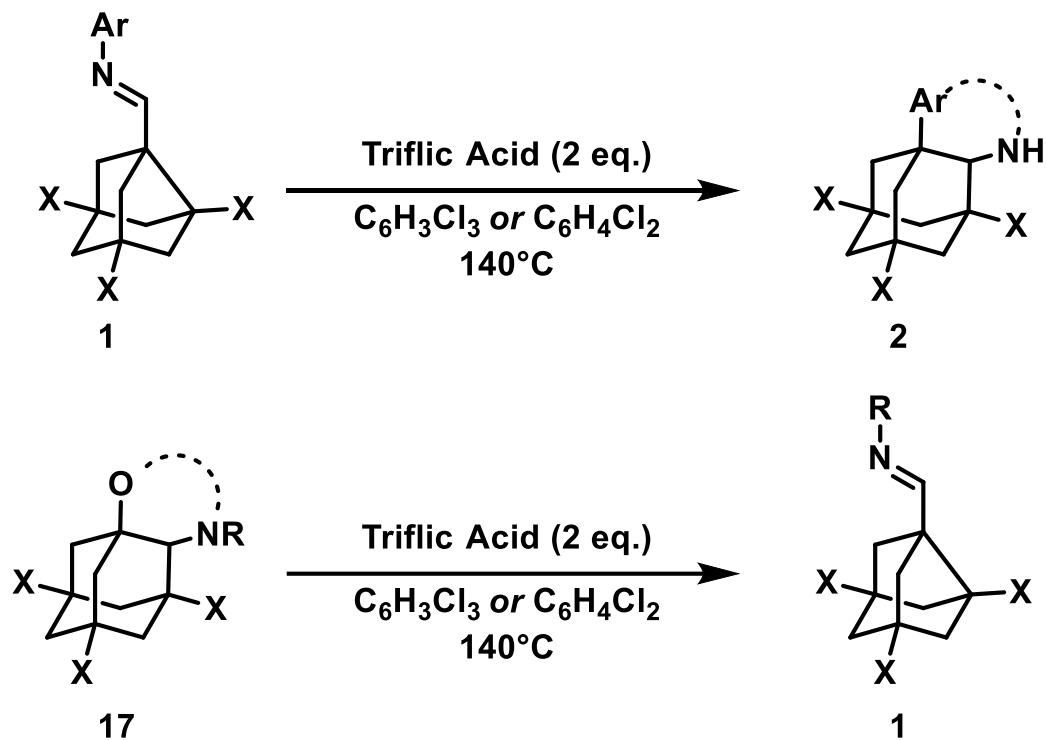
Updated mechanistic hypothesis



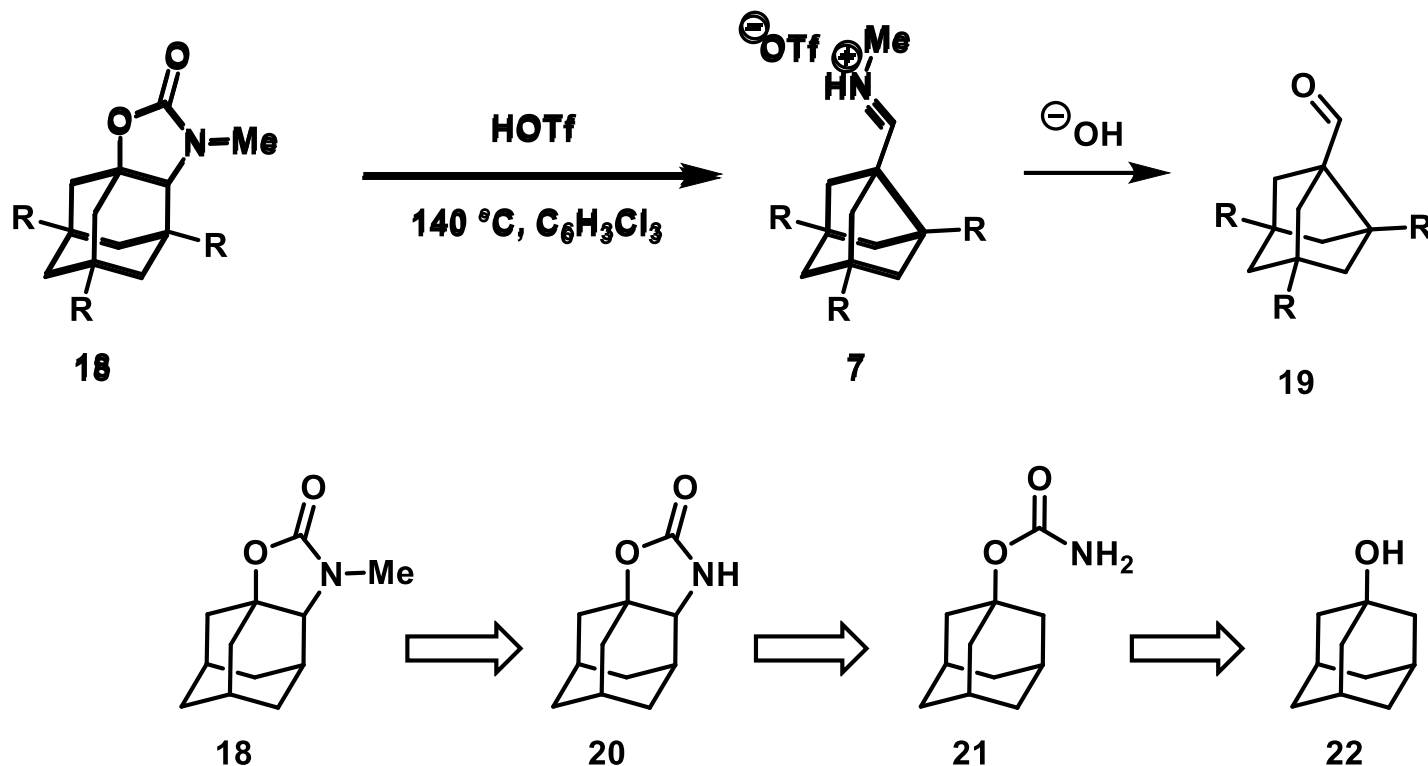
Postfunctionalisation



What's next?



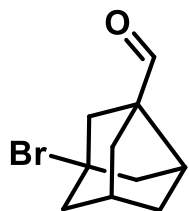
Follow-up & Outlook



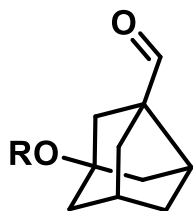
Optimisation

Brønsted acid	Solvent	Temperature	Time	Conversion
TfOH	DCM	23 °C	17 h	0
TfOH	DCM	40 °C	17 h	0
TfOH	DCE	70 °C	17 h	0
TfOH	C ₆ H ₄ Cl ₂	110 °C	17 h	50%
TfOH	C ₆ H ₄ Cl ₂	140 °C	17 h	>90%
TfOH	C₆H₃Cl₃	140 °C	3 h	>90%
<i>p</i> TsOH	C ₆ H ₄ Cl ₂	140 °C	17 h	0
TFA	C ₆ H ₄ Cl ₂	140 °C	17 h	0
TfOH	Dimethylacetamid	140 °C	17 h	0

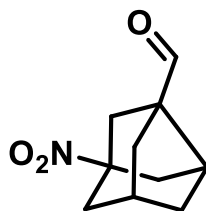
Follow-up & Outlook



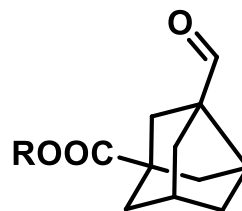
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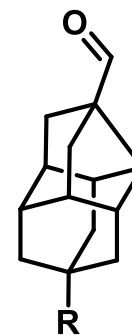
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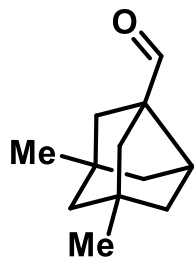
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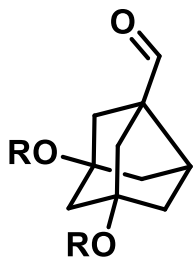
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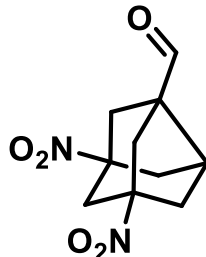
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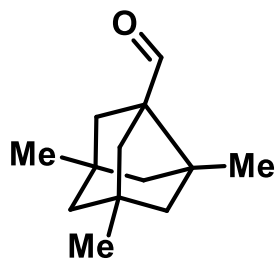
19g



19h



19i



19j

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