Enantioselective Synthesis of Oasomycin A, Part II: Synthesis of the C29-C46 Subunit

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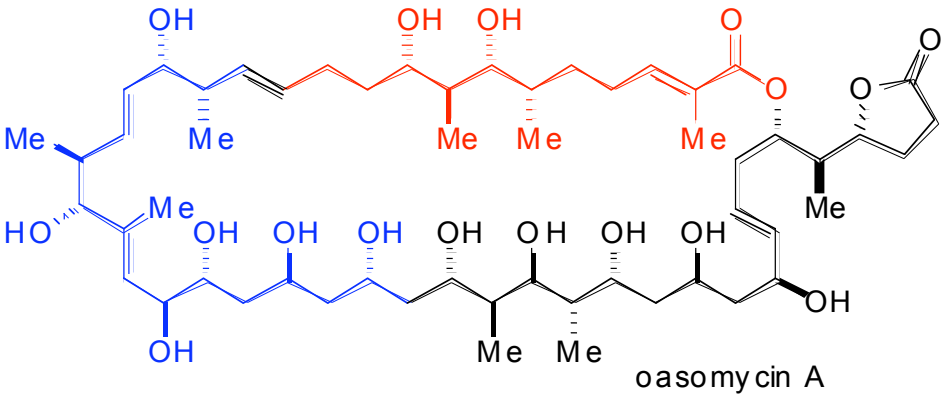
Presented by: James Hale, 04-16-2007

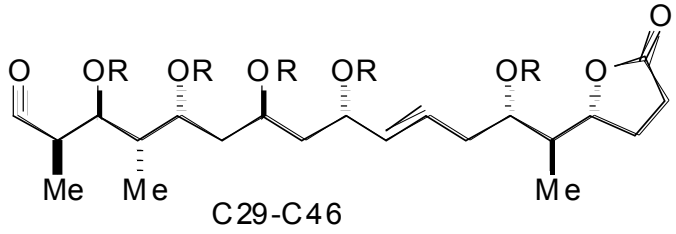
Discovery and Biological Implications

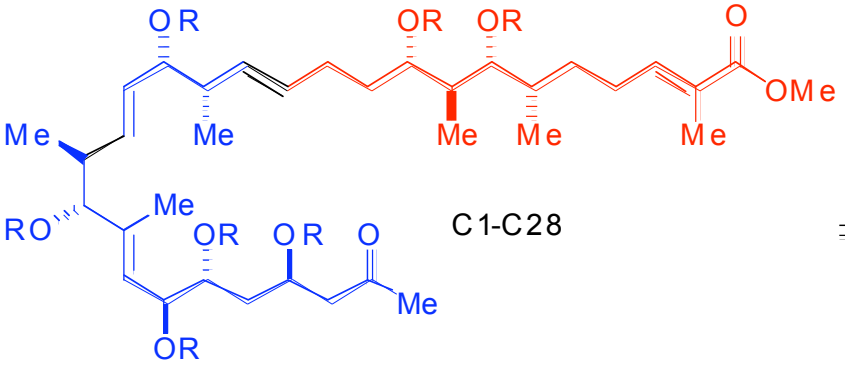
- Produced by Streptoverticillium and Streptomyces strains (Streptomyces olivaceus Tu 4081).
- Potential antibiotic and inhibitor of cholesterol biosynthesis.

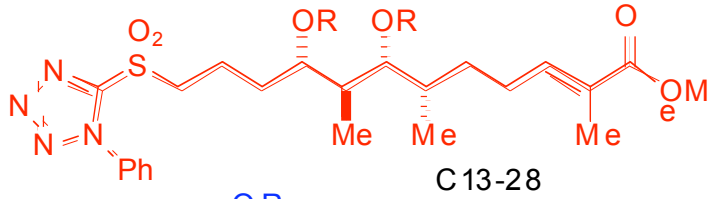
5189150 Feb, 1993 Zeeck et al. 536/6.

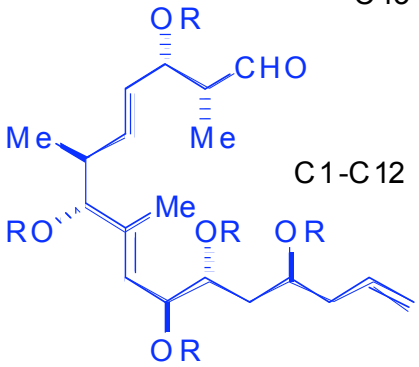
Retrosynthesis: Oasomycin A





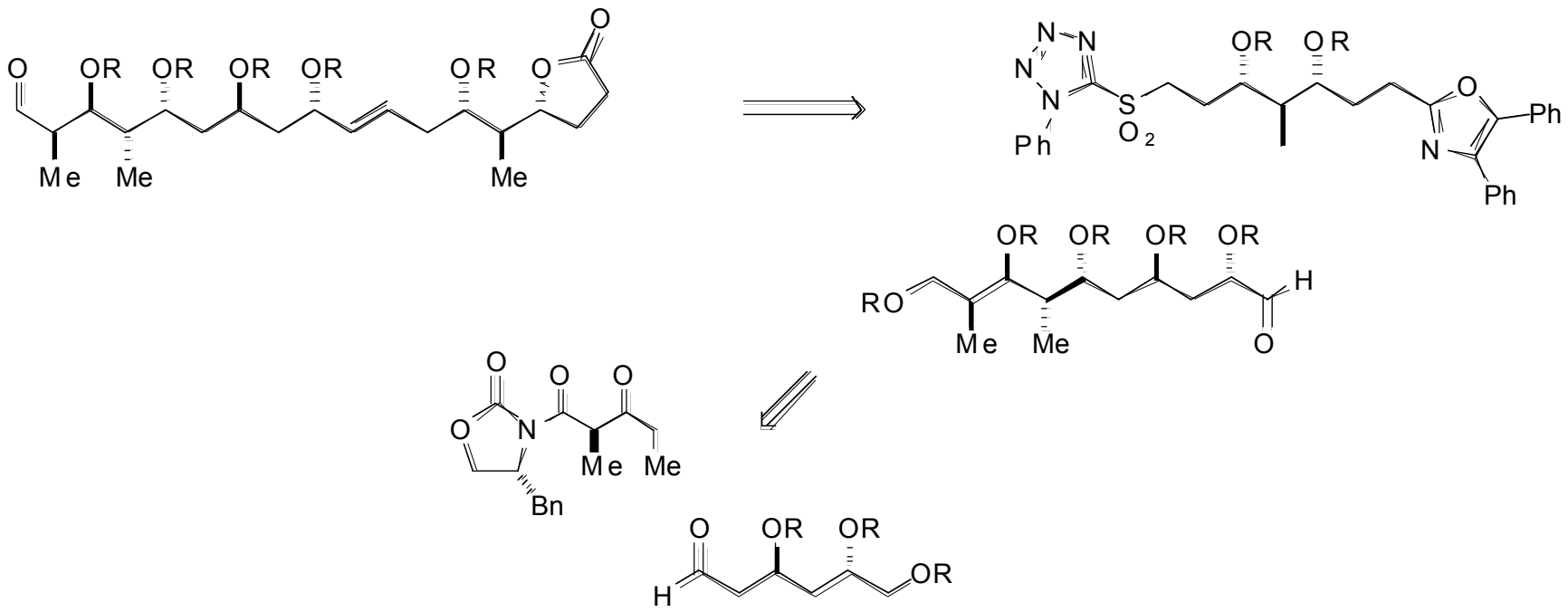




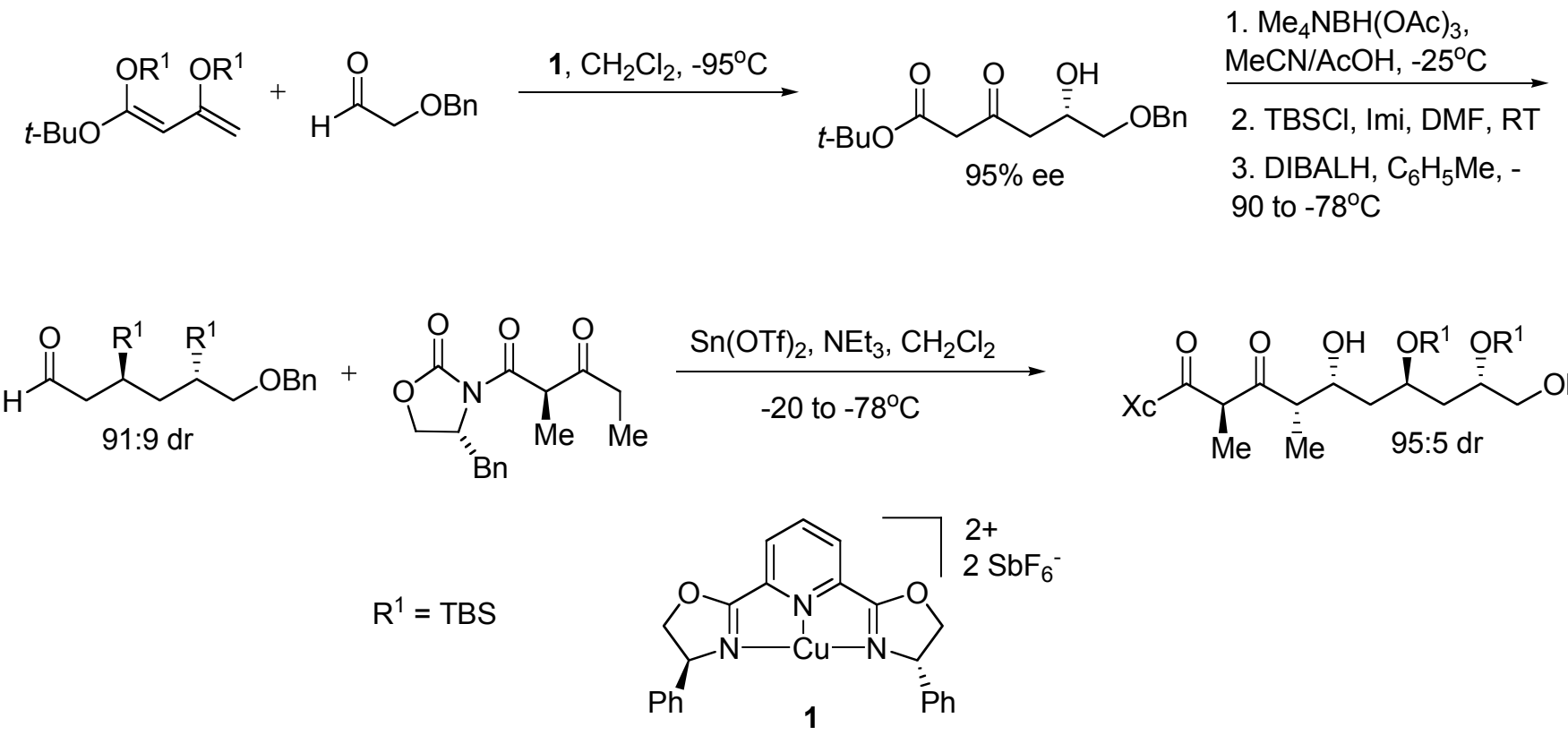


Ang. Chem., Int. Ed. 2007, **2007**, 46, 545-548

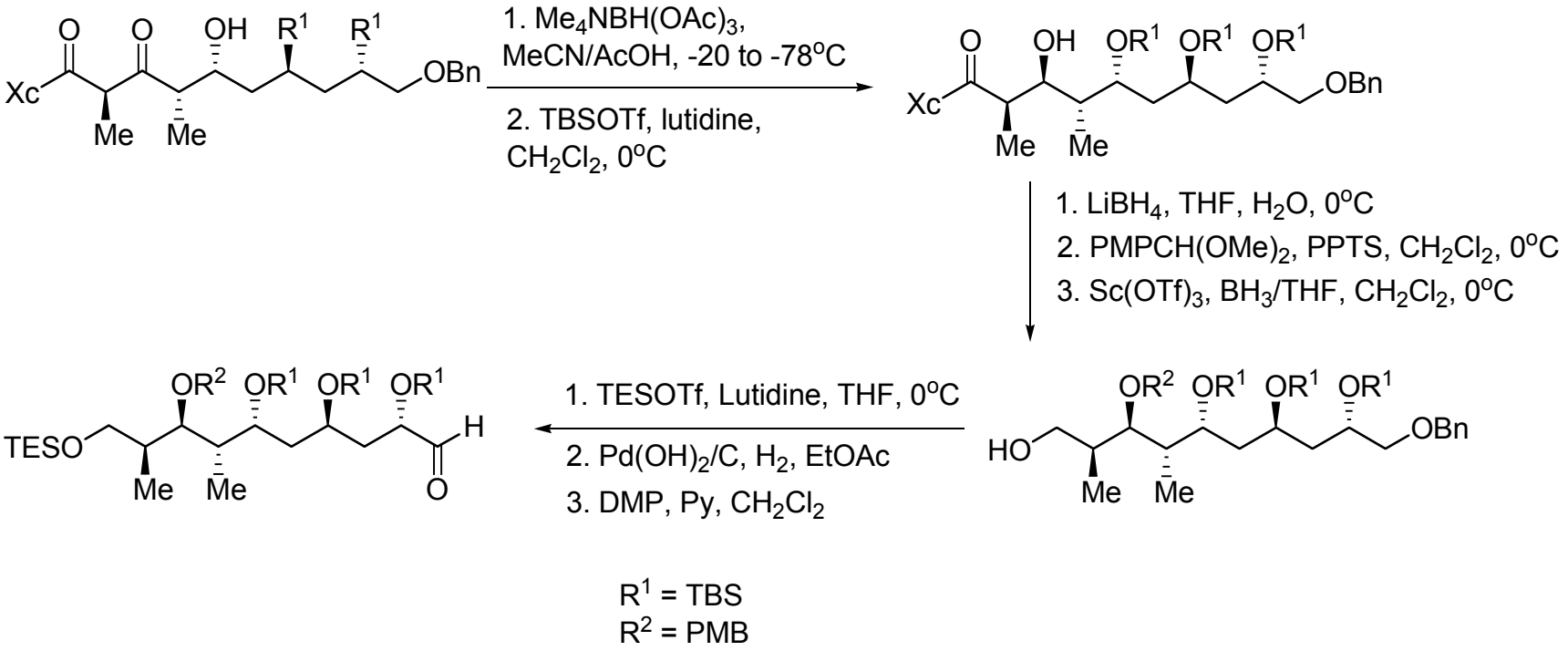
Retrosynthesis: C29-C46 Fragment



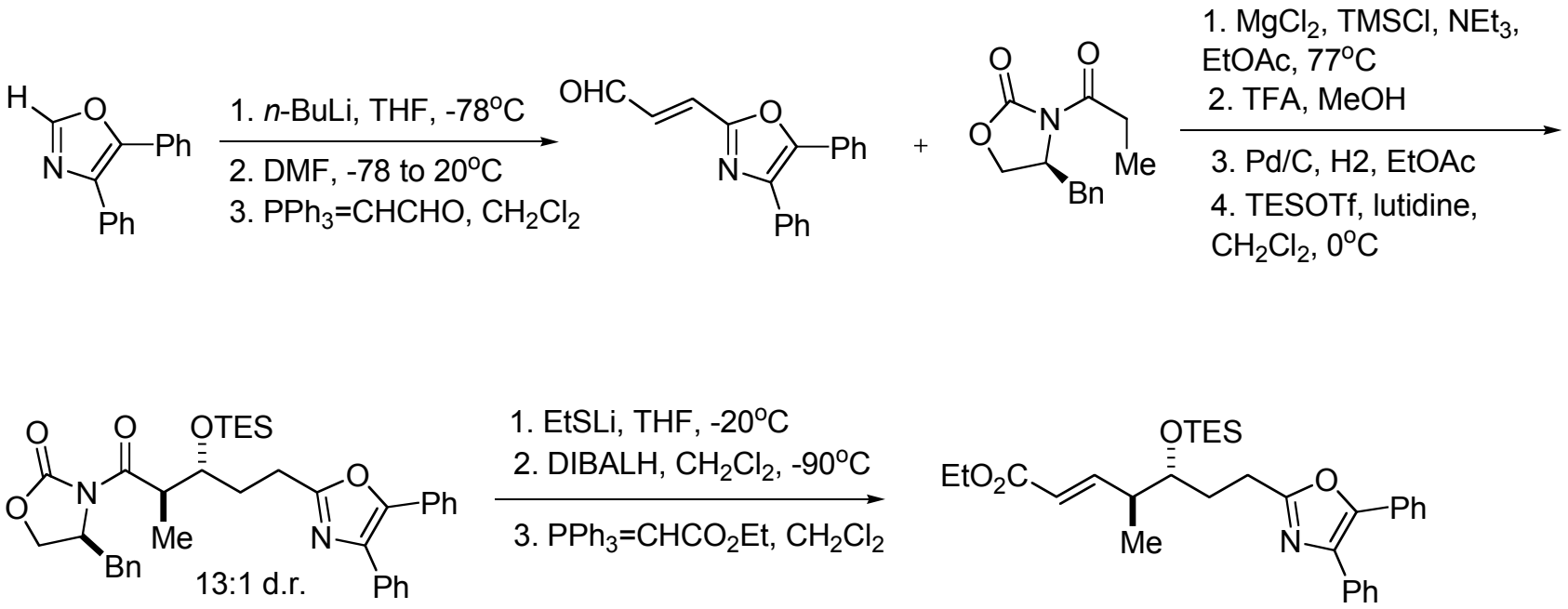
Synthesis: C29-C38 Fragment



Synthesis: C29-C38 Fragment



Synthesis: C39-C46 Fragment



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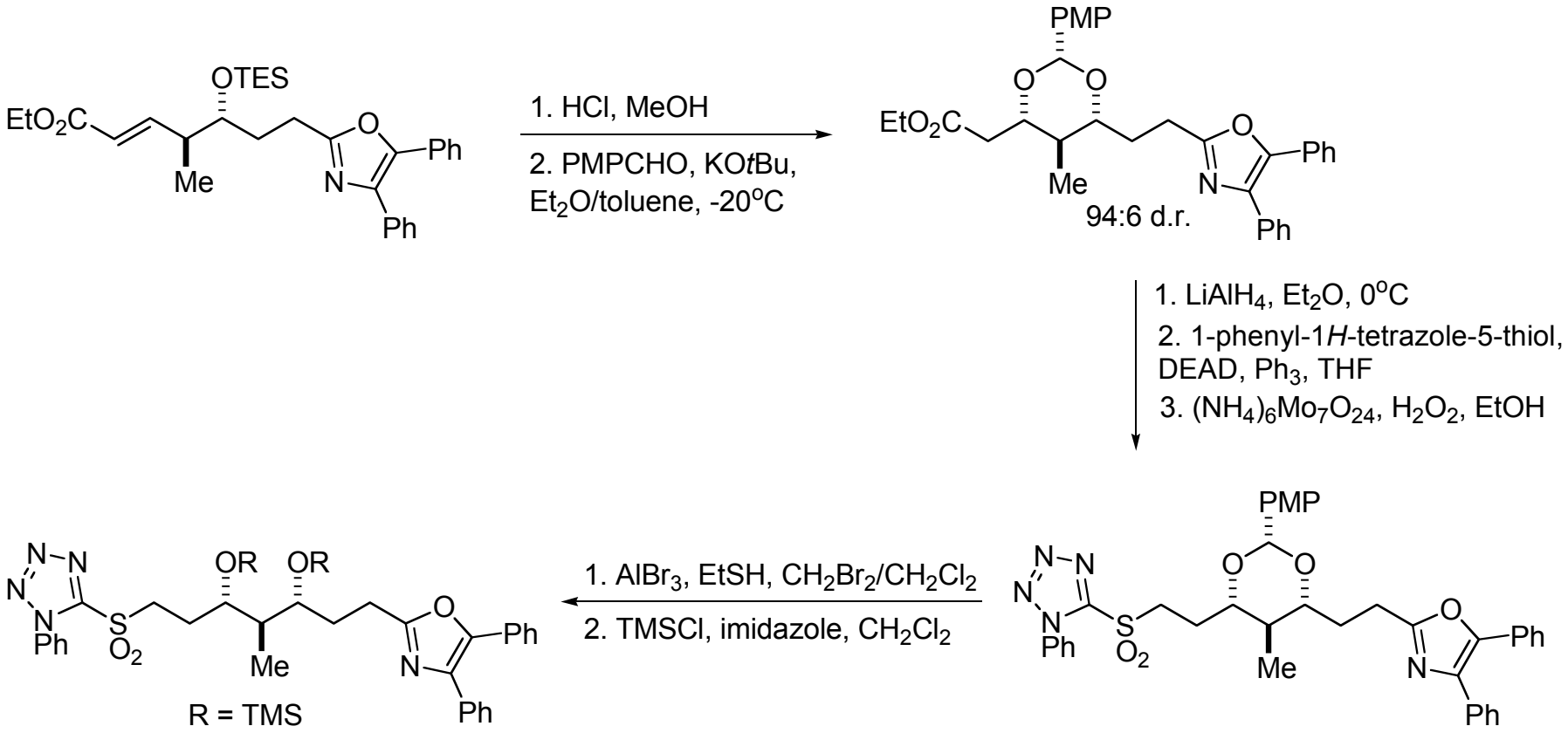

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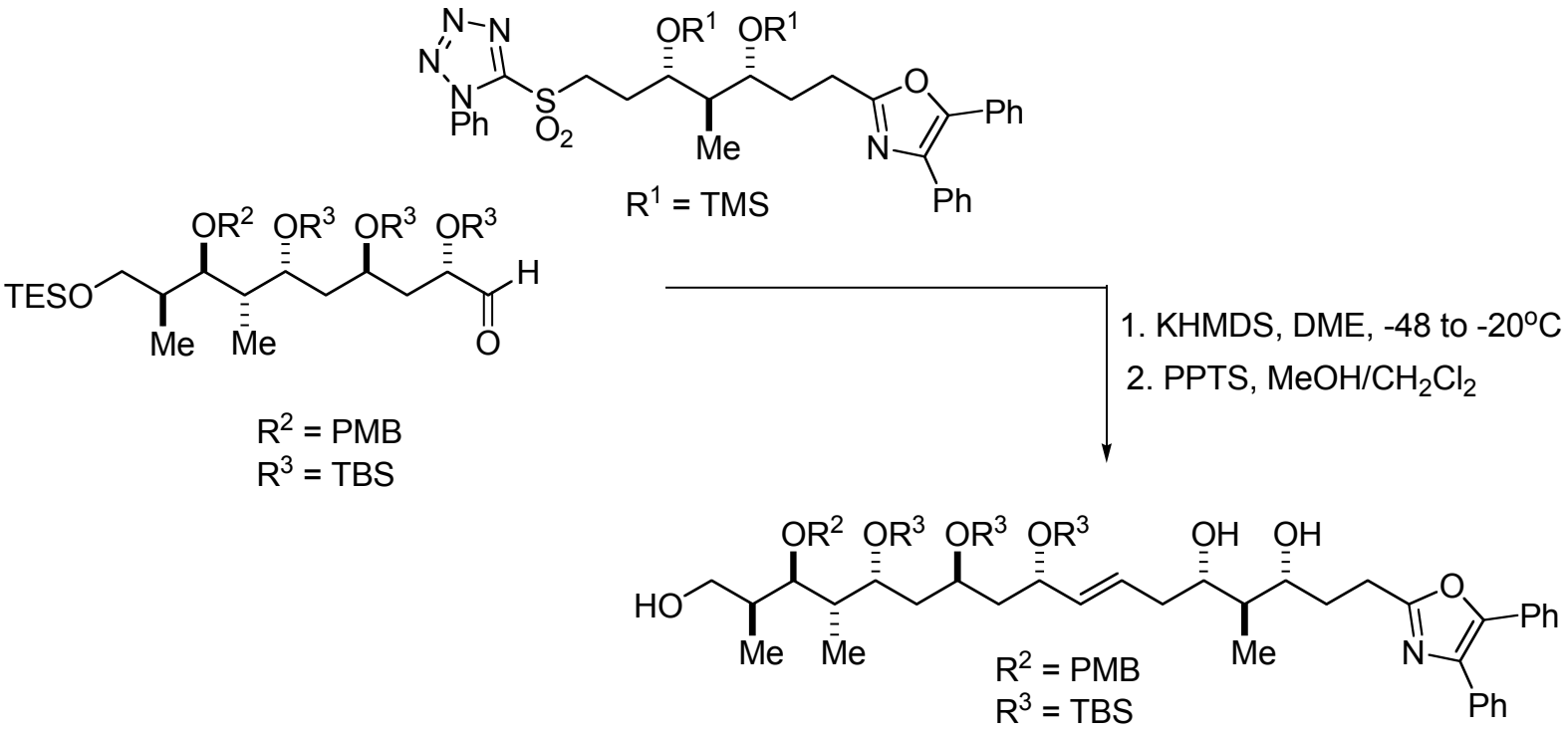
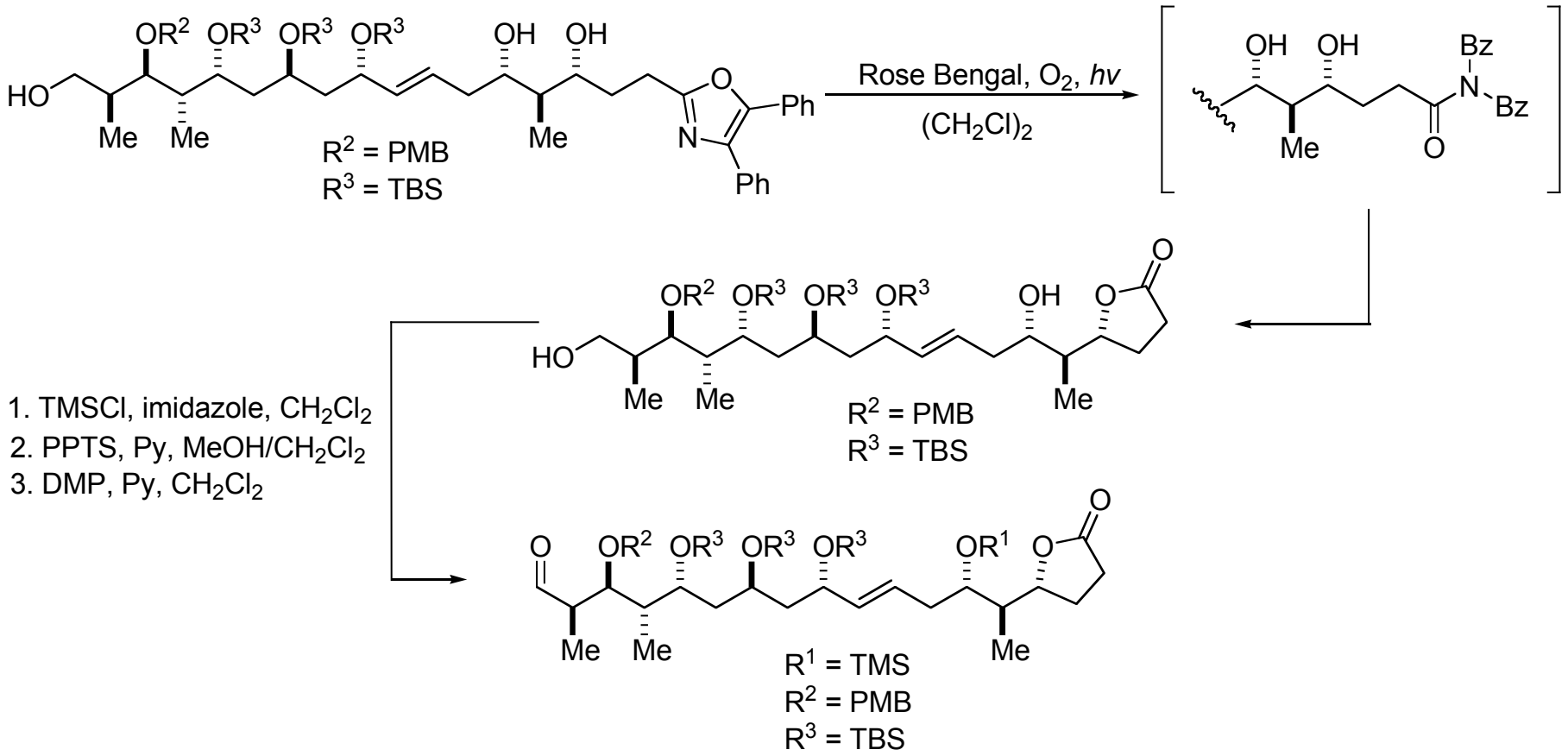


Synthesis: C29-C46 Fragment



Conclusion

- Subunit C29-C46 of oasomycin A was synthesized with high enantioselectivity.
- Enantioselective aldol reactions were highly utilized for the formation of C29-C38 and C39-C46 subunits.
- Julia-Kocienski olefination used as a key step in the formation of the C29-C46 fragment.