

- Isolated in 1990 from *Ecteinascidia turbinata*, a species Caribbean tunicate (1.0 g/ ton tunicate)
- IC₅₀: 0.5 ng/mL vs L1210 leukemia cells
- FDA approved for the treatment of advanced soft-tissue sarcoma and ovarian cancer.
- Its analog lurbinectedin is also approved for the treatment of small cell lung cancer.
- Total synthesis: Corey (1996), Fukuyama (2002), Zhu(2006), Danishefsky (2006), Williams(2008)

Isolation:

Rinehart, K. L. et al. *J. Org. Chem.* 1990, 55, 4512-4515 <https://doi.org/10.1021/jo00302a007>

Total synthesis:

Corey, E. J. et al. *J. Am. Chem. Soc.* 1996, 118, 9202– 9203. <https://doi.org/10.1021/ja962480t>

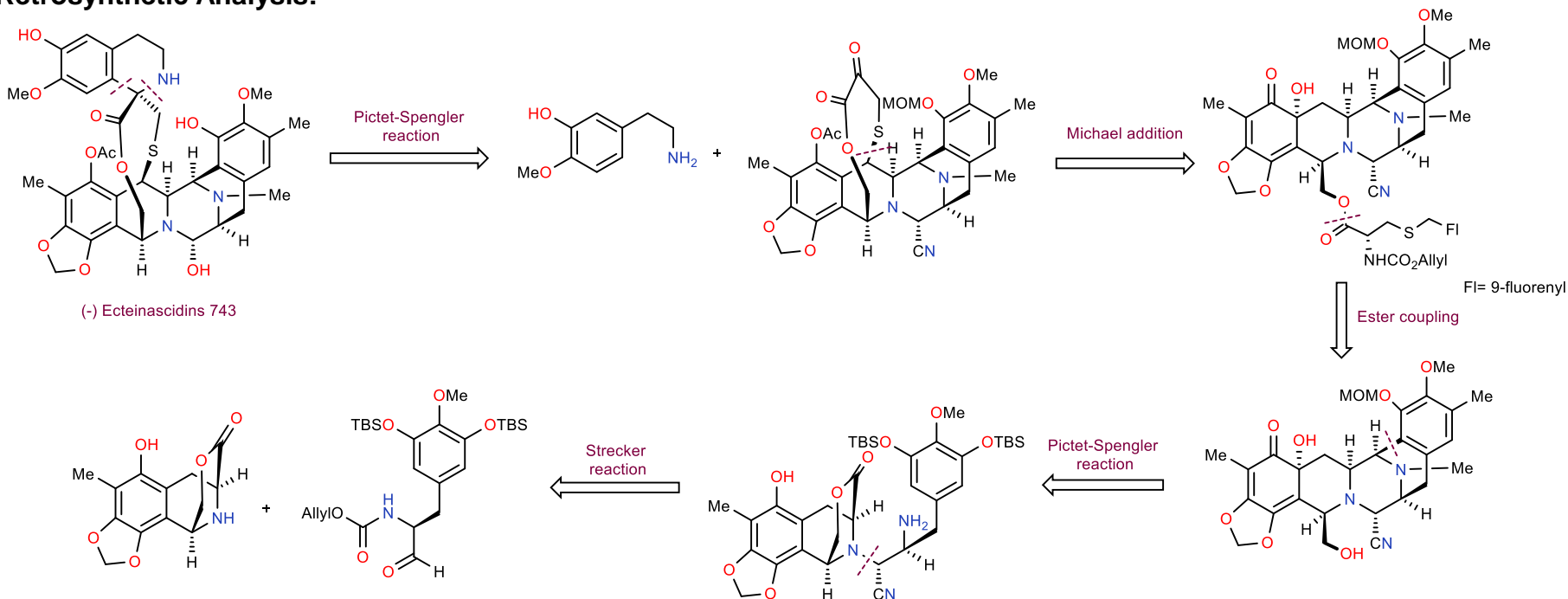
Fukuyama, T. et al. *J. Am. Chem. Soc.* 2002, 124, 6552– 6554. <https://doi.org/10.1021/ja026216d>

Zhu, J. et al. *J. Am. Chem. Soc.* 2006, 128, 87– 89. <https://doi.org/10.1021/ja0571794>

Danishefsky, S. J. et al. *Angew. Chem., Int. Ed.* 2006, 45, 1754– 1759. <https://doi.org/10.1002/anie.200503983>

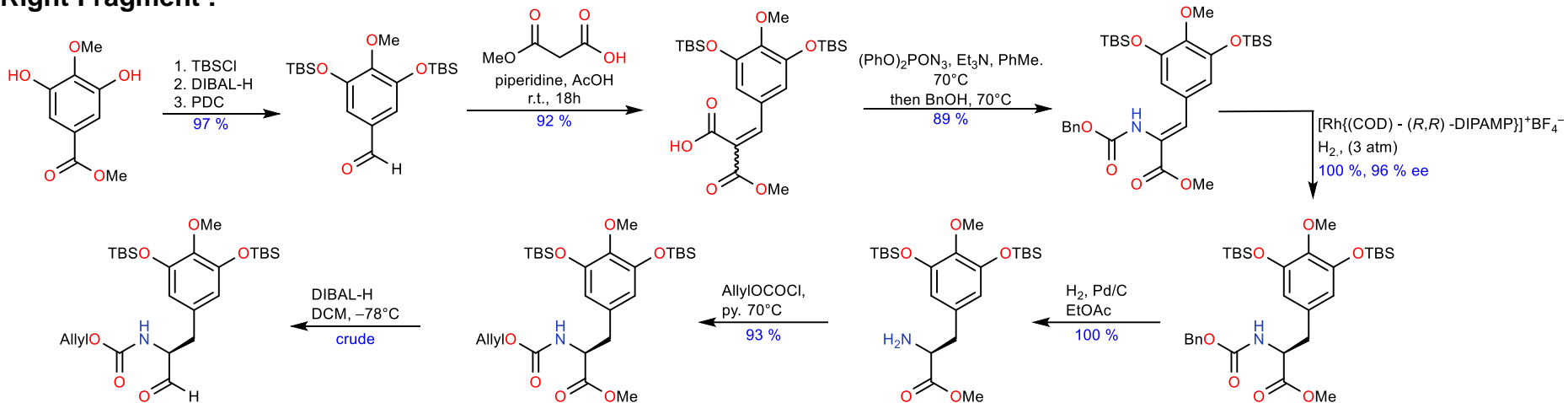
Williams, R. M. et al. *J. Org. Chem.* 2008, 73, 9594– 9600. <https://doi.org/10.1021/jo801159k>

Retrosynthetic Analysis:

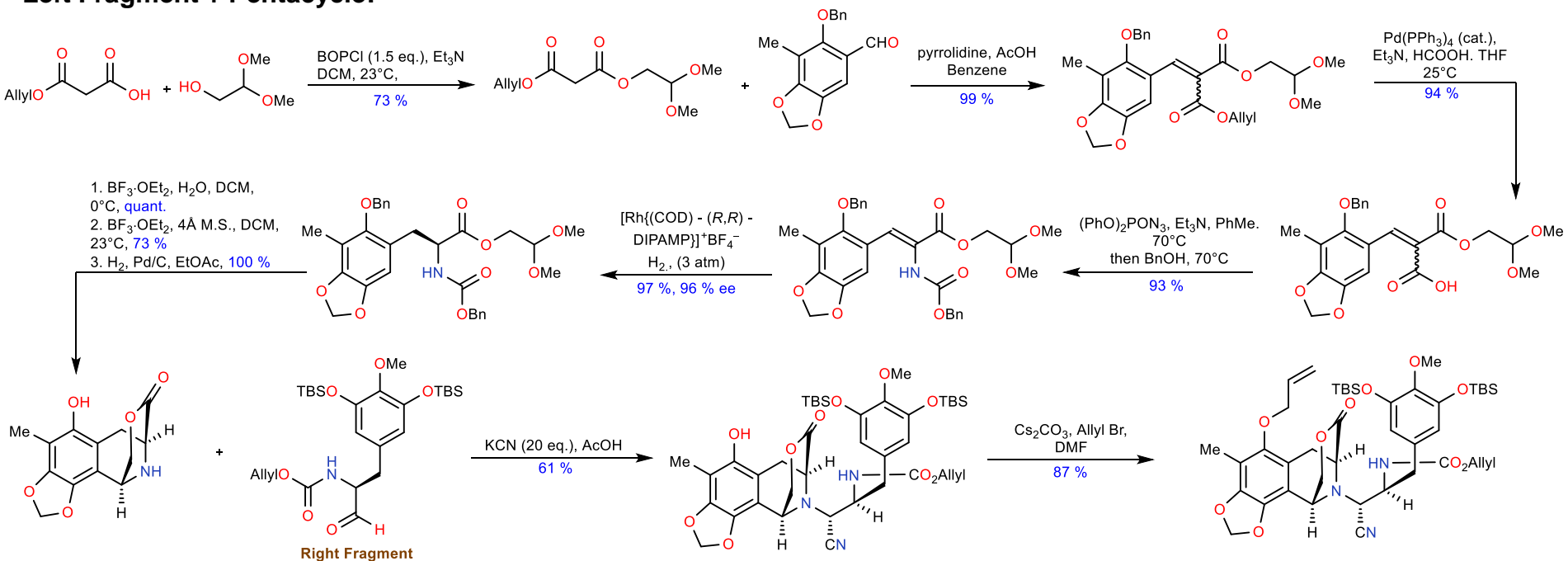


Corey, E. J. et al. *J. Am. Chem. Soc.* 1996, 118, 9202– 9203. <https://doi.org/10.1021/ja962480t>

Right Fragment :



Left Fragment + Pentacycle:



Corey, E. J. et al. *J. Am. Chem. Soc.* 1996, 118, 9202– 9203. <https://doi.org/10.1021/ja962480t>

End Game:

