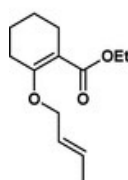
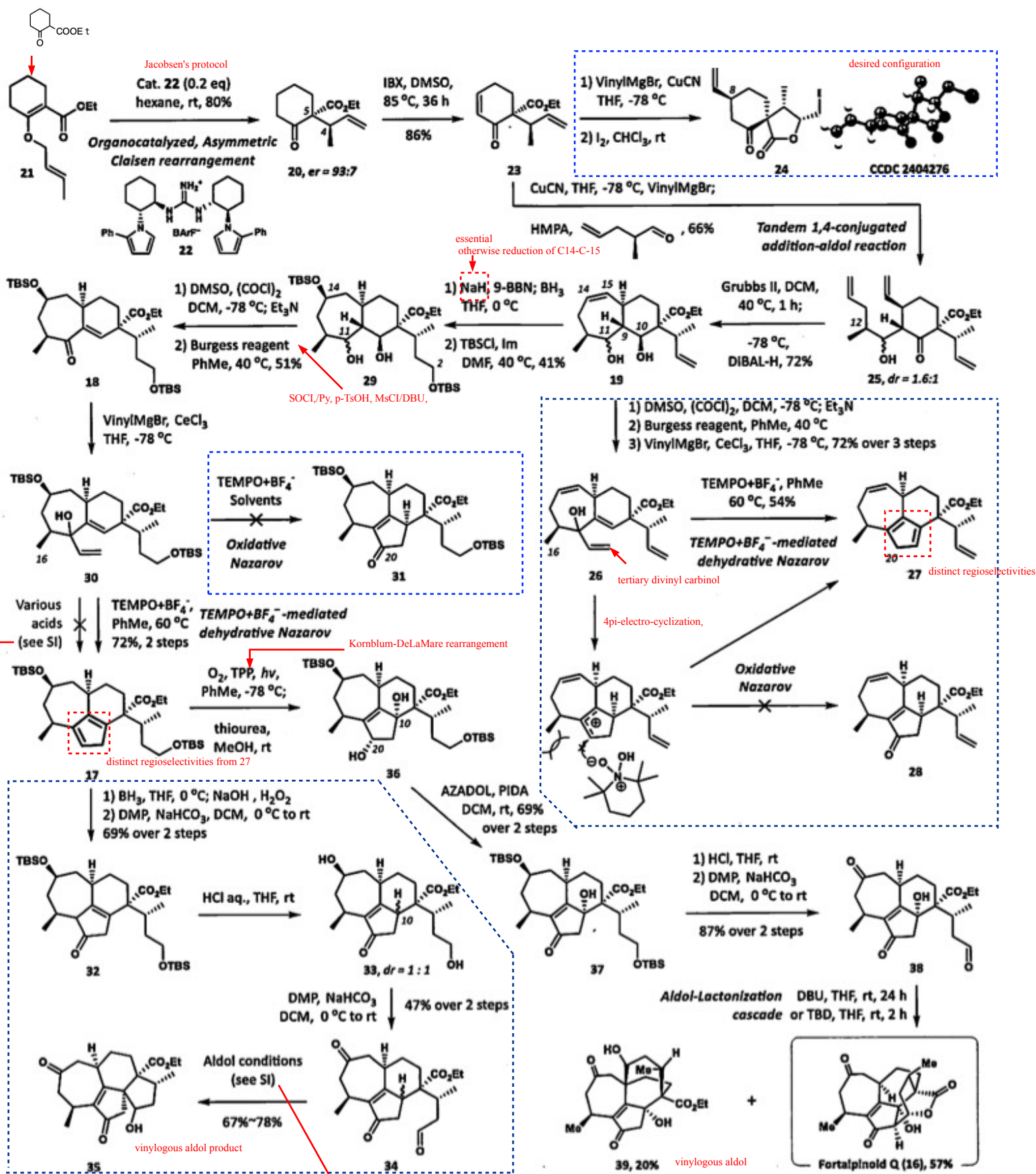
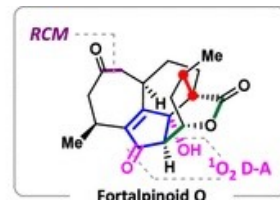


Cephalotaxus diterpenoid family



- Asymmetric Claisen Rearrangement
- TEMPO⁺BF₄⁻-Mediated Dehydrative Nazarov
- Aldol-Lactonization Cascade

15 steps



entry ^a	conditions	yield ^b
1	TEMPO ⁺ BF ₄ ⁻ , CH ₃ CN, 40 °C	messy
2	TEMPO ⁺ BF ₄ ⁻ , Dioxane, 60 °C	messy
3	TEMPO ⁺ BF ₄ ⁻ , Toluene, 60 °C	78%
4	TEMPO ⁺ BF ₄ ⁻ , Acetone, 40 °C	messy
5	HBFe ₃ , THF, rt	deprotection
6	HCl aq., THF, rt	deprotection
7	H ₂ SO ₄ , THF, rt	deprotection
8	CF ₃ COOH, THF, rt	messy

entry ^a	conditions	yield ^b
1	DE-proline, CH ₃ CN	decomposed
2	DBU, THF, reflux	NR
3	DBU, Toluene, reflux	NR
4	NaH, THF, -10 °C	messy
5	TBD, THF, reflux	NR
6	K ₂ CO ₃ , EtOH, rt	67%
7	DABCO, THF, reflux	NR
8	TMG, THF, reflux	NR
9	KOMe, THF, -78 °C	NR
10	PTSA, Toluene, 80 °C	NR
11	BCl ₃ , THF, reflux	79%
12	AlCl ₃ , DCM, reflux	NR
13	SiCl ₄ , THF, reflux	NR