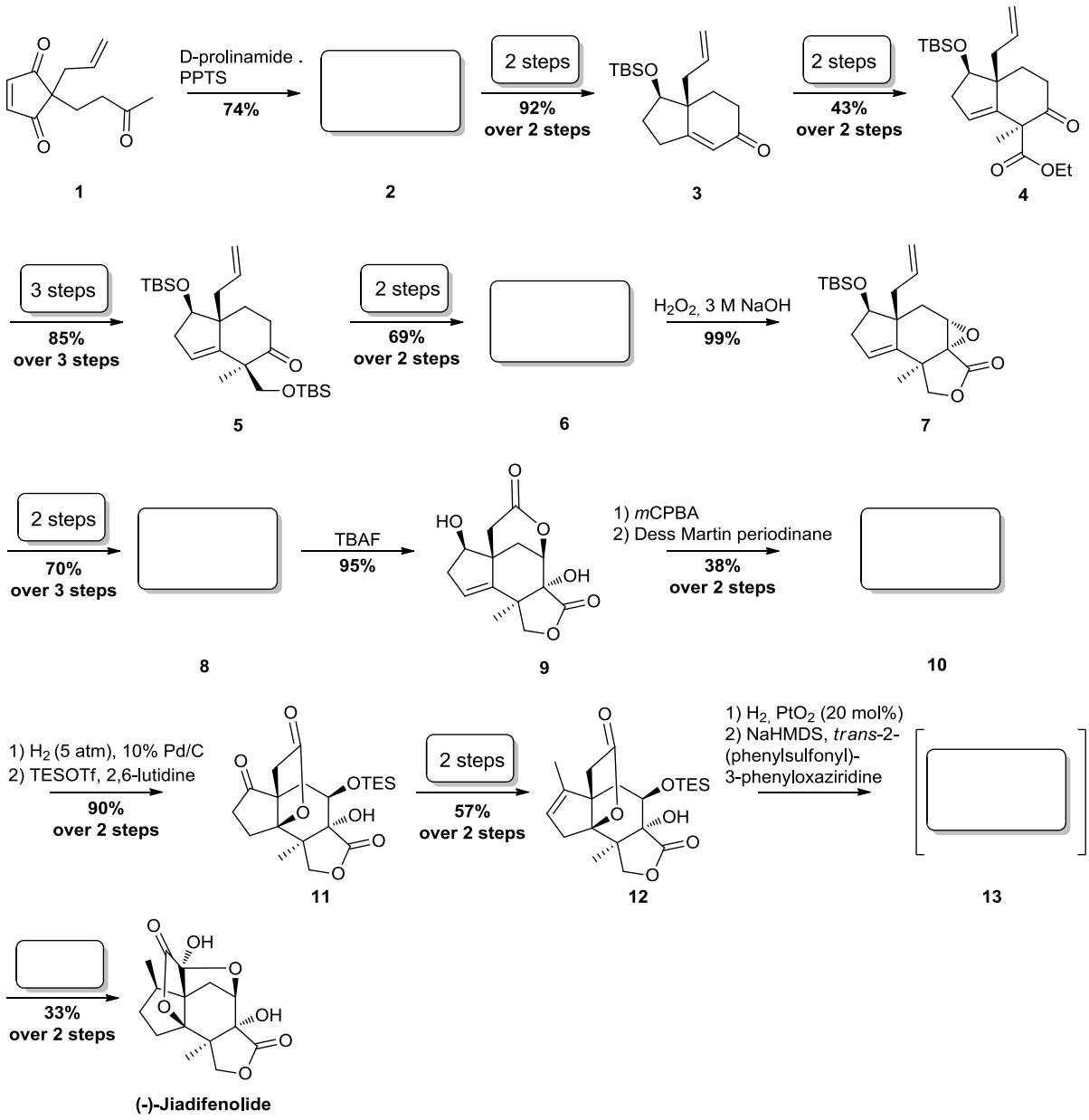
Enantioselective Total Synthesis of (-)-Jiadifenolide

Neurotropic factors are a family of proteins that regulate nervous system development and maintain adult nervous system plasticity and structural integrity. Their neuroprotective properties explain an interest in the treatment of chronic neurodegenerative disease such as Parkinson's Disease of Alzheimer' Disease. Due to their chemical structure they cannot persist in the body for a long time and also cannot cross the blood-brain barrier.
In search of new small molecules with neurotrophic modulatory properties Fukuyama *et al*. Isolated three novel pentacyclic sesquiterpenoids, one of which is (-)-Jiadeifenolide. Here is the first total synthesis of (-)-Jiadeifenolide: