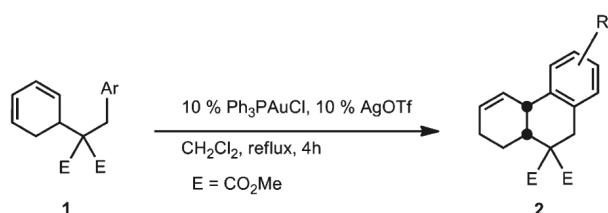


Synthesis of the Phenanthrene and Cyclohepta[a]naphthalene Skeletons via Gold(I)-Catalyzed Intramolecular Cyclization of Unactivated Cyclic 5-(2-Arylethyl)-1,3-dienes

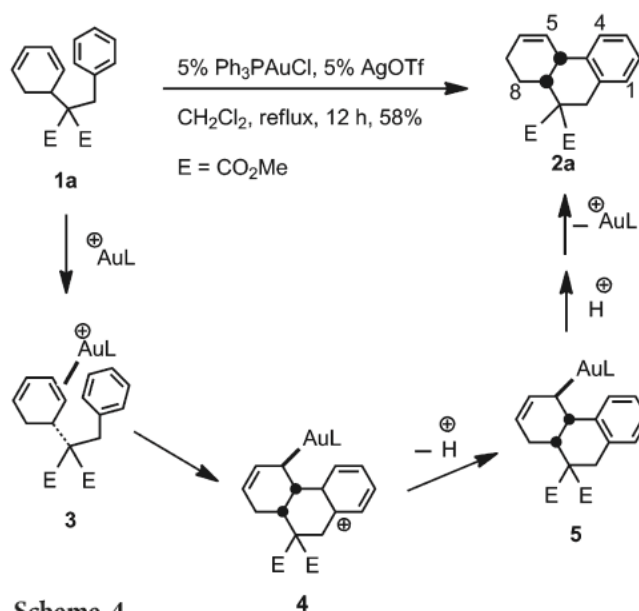
Ming-Chang P. Yeh,* Ming-Nan Lin, Yi-Shiang Chou, Tern-Chi Lin, and Li-Yu Tseng

Scheme 1

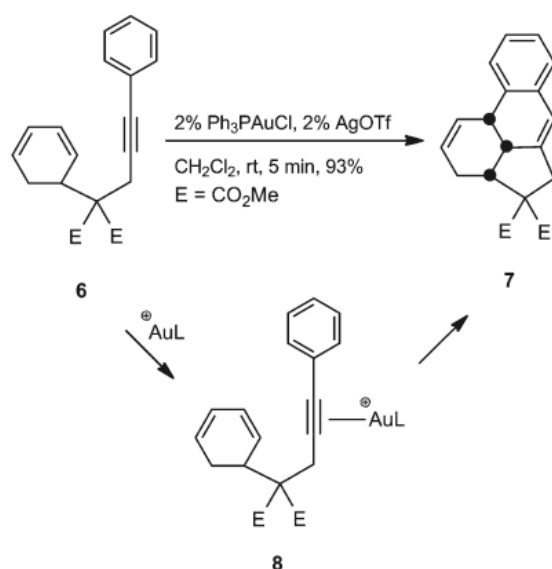


- a: Ar = Ph 57%
- b: Ar = 2-naphthyl 91%
- c: Ar = 4-methoxyphenyl 63%
- d: Ar = 4-phenylphenyl 92%
- e: Ar = 3-methoxyphenyl 60%
- f: Ar = 2-methoxyphenyl 62%
- g: Ar = 3,4-dimethoxyphenyl, 68%
- h: Ar = 4-bromophenyl 0%
- i: Ar = 4-carbomethoxyphenyl 0%
- j: Ar = 4-CN 0%
- k: Ar = 2-pyridinyl 0%

Scheme 2



Scheme 3



Scheme 4

