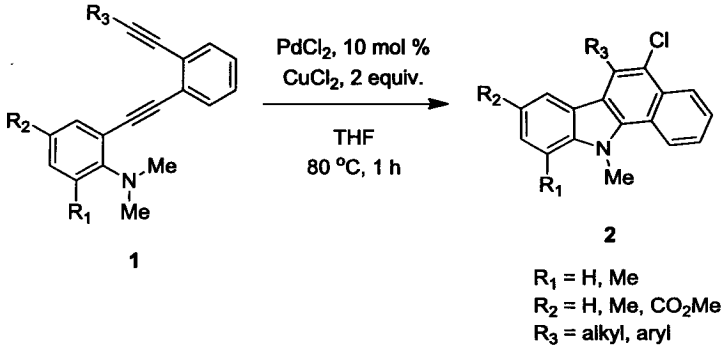
OP-10

Synthetic Development and Mechanistic Study on Pd(II)-Catalyzed Cyclization of Enediynes to Benzo[*a*]carbazoles

Chin-Chau Chen (陳景昭)[1], Lin-Yu Chin (金玲宇)[2], Shyh-Chyun Yang (楊世群)[1], and Ming-Jung Wu (吳明忠)[2]*

[1]*School of Pharmacy, Kaohsiung Medical University, Kaohsiung, Taiwan*
[2]*Department of Chemistry, National Sun Yat-sen University, Kaohsiung, Taiwan*

Treatment of *N*,*N*-dimethyl 2-[2-(2-ethynylphenyl)ethynyl]anilines (**1**) with 10 mol % of palladium chloride and 2 equiv of cupric chloride in refluxing THF gave benzo[*a*]carbazoles (**2**) in good yields. A mechanistic study showed that this reaction must proceed through formation of haloindole (**3**) followed by a palladium(II)-catalyzed atom transfer cyclization reaction to give the benzo[*a*]carbazoles.



1

2

R_1 = H, Me
R_2 = H, Me, CO_2Me
R_3 = alkyl, aryl