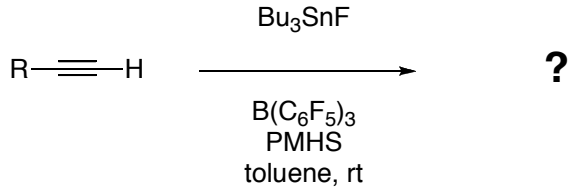
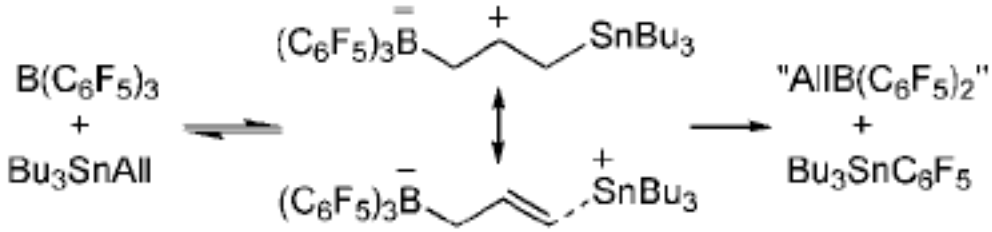
Migration of organic group from boron to tin

Lewis acid catalyzed hydrostannation:

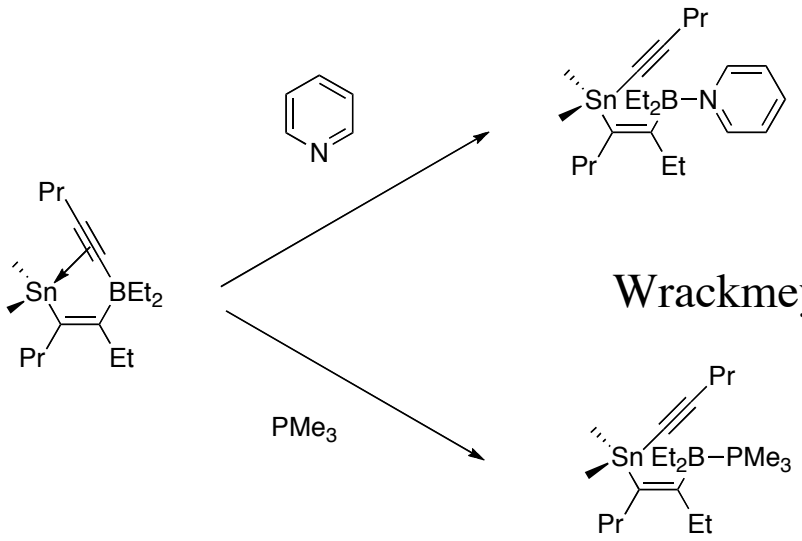


Pier's observation:



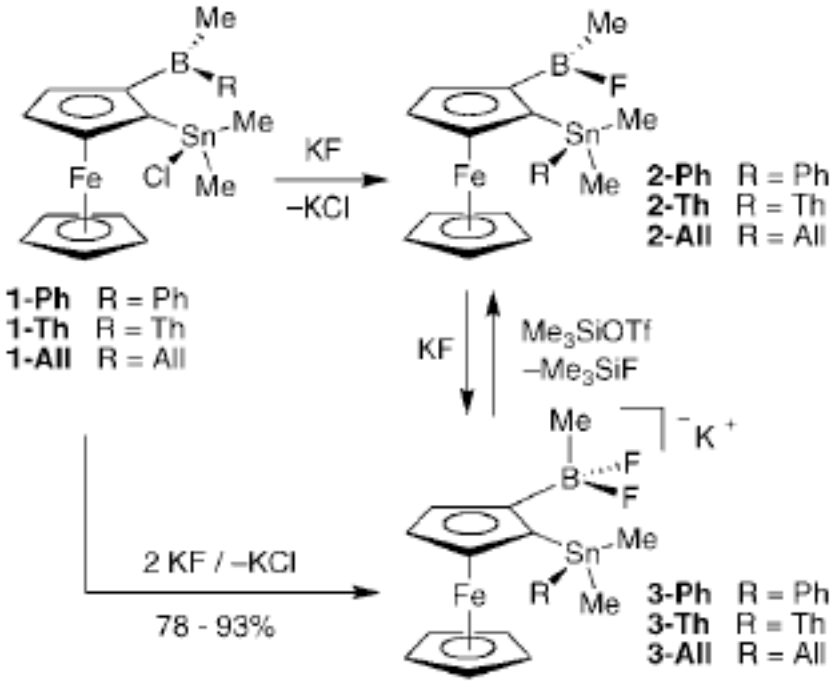
Piers et al. *J. Am. Chem. Soc.* **2002**, *124*, 1295-1306

Two other examples of boron to tin organic group transfer

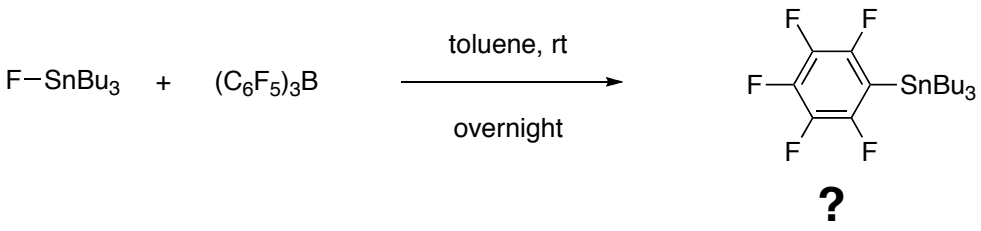


Wrackmeyer et al. *J. Organomet. Chem.* **1999**, *590*, 93.

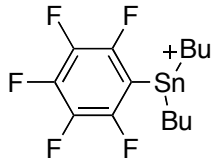
Jackle et al. *Organometallics*, **2008**, *27*, 1534



Initial study



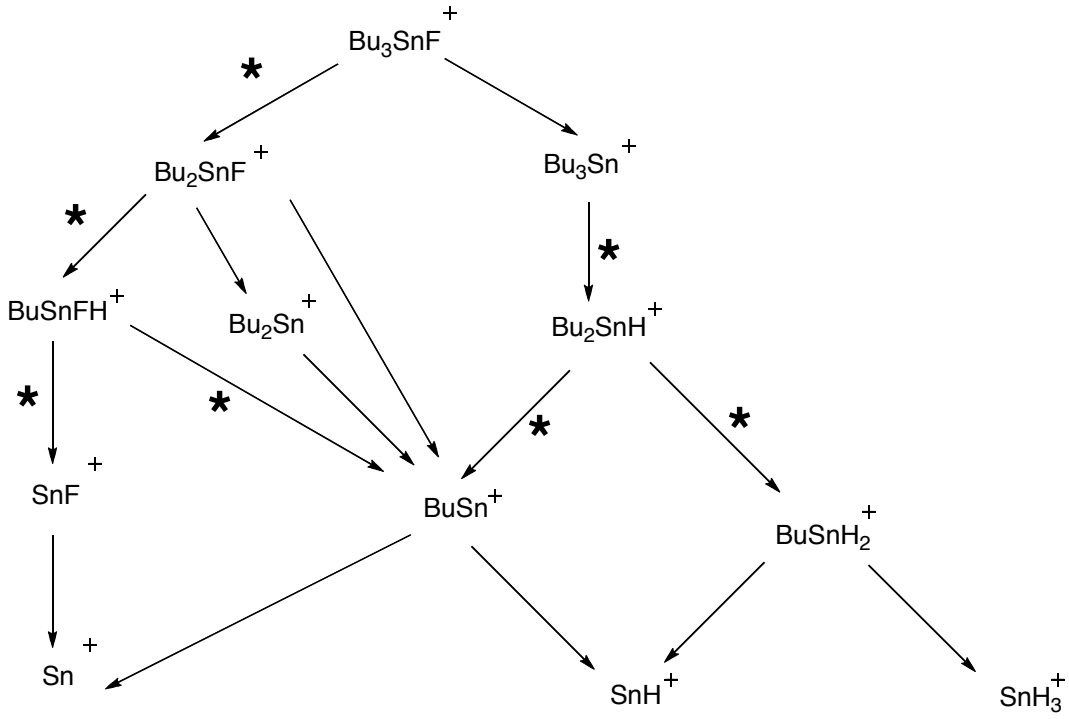
entry	equiv. of $(C_6F_5)_3B$	equiv. of Bu_3SnF	Mass observed
1	1	1	401
2	1	2	401
3	1	3	401
4	1	4	401
5	1	5	401
6	1	6	401
7	1	7	401
8	1	8	401
9	1	9	401
10	1	10	401



m/z = 401

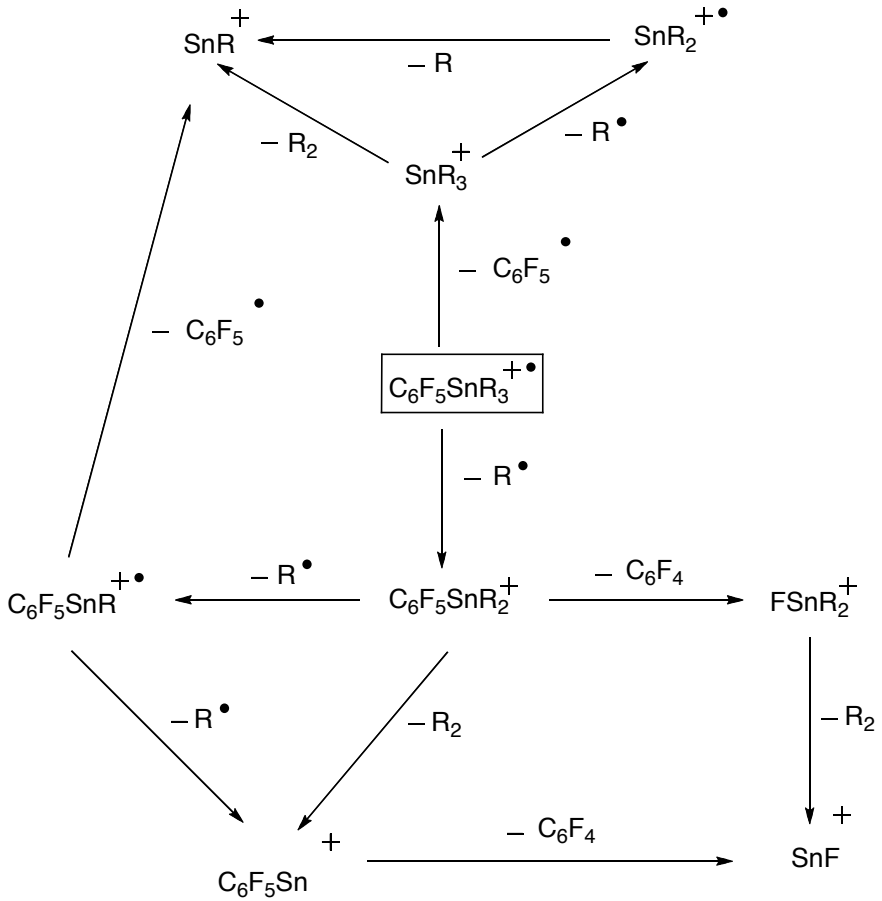
for entry 1 and 2 m/z = 361 was observed. For all other entries m/z = 291, 311 were observed.

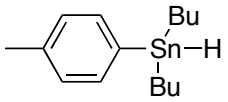
Possible fragmentation pattern of Bu_3SnF



Mayence et al. *J. Organometal. Chem.* **1968**, *12*, 363-368

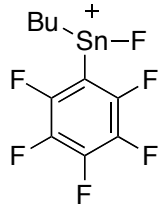
Partial fragmentation of $C_6F_5SnR_3$





?

m/z = 326

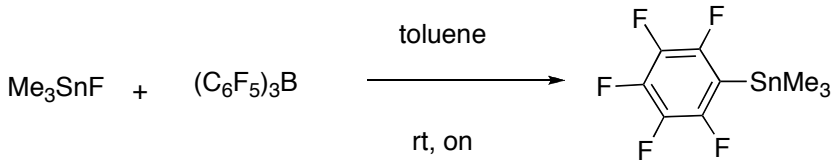


?

m/z = 363

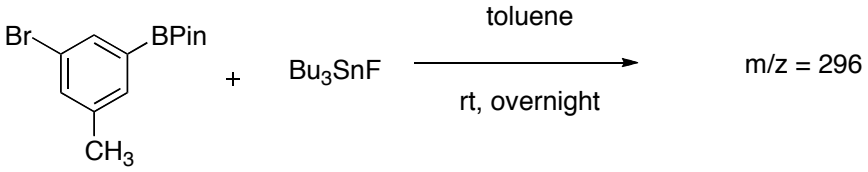
Miller et al. *J. Chem. Soc (A),* **1971**, 2556

Some other results

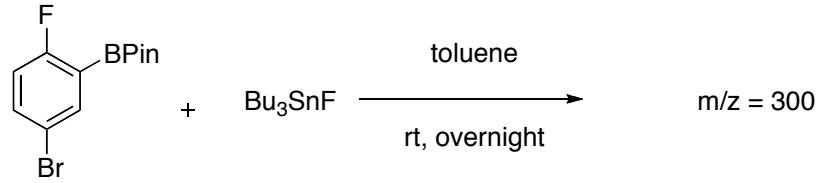


observed

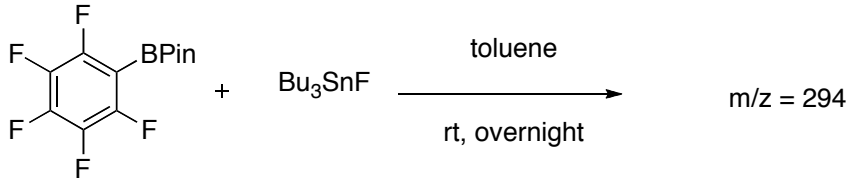
m/z = 331.96



m/z = 296

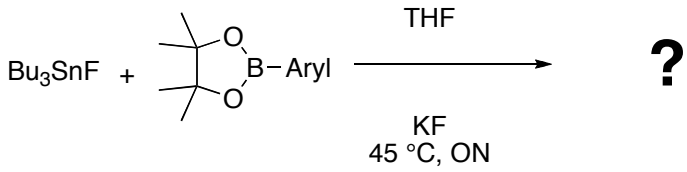


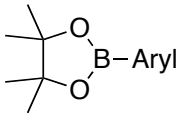
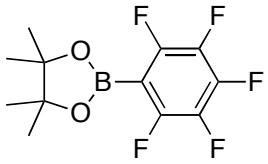
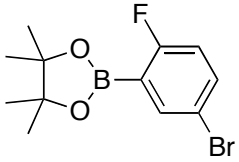
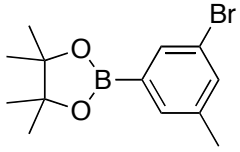
m/z = 300



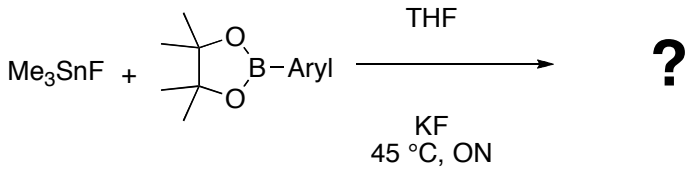
m/z = 294

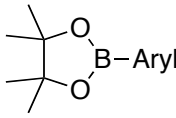
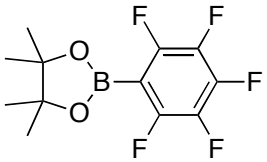
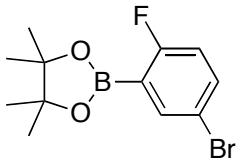
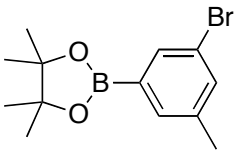
Study of migration of organic group in presence of KF



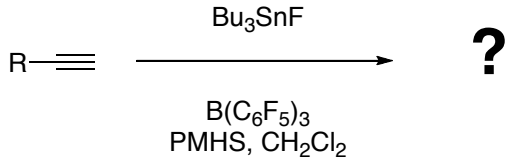
	KF (equiv.)	Mass observed
	1.1	401
	1.1 10	300
	1.1 10	296

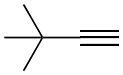
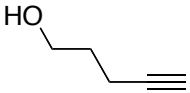
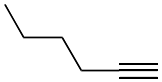
Study of migration of organic group in presence of KF



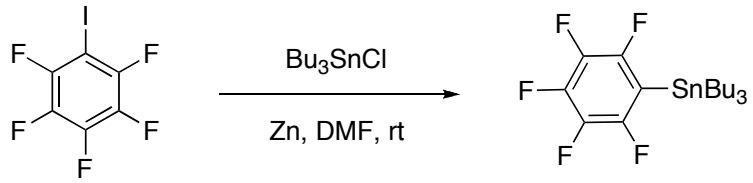
	KF (equiv.)	Mass observed
	1.1	317
	1.1 10	300
	1.1 10	296

Lewis Acid Catalyzed Hydrostannation



alkyne	work-up	result
	evaporation of solvent	NO VINYL STANNANE
	Evaporation of solvent	
	Evaporation solvent	
	Et_3N	

Synthesis of the desired molecules



Burton et al, *Journal of fluorine chemistry*, **2004**, *125*, 673

m/z = 401

Fluorine = -121, -153, -160

^{119}Sn = -20 (lit -19)