

**Advanced Synthesis and Catalysis, 2009**

Unless noted, class is 9:00-10:30, Mon and Wed, L4.146

Date	Topic	Lecturer	Reading assignment	Assignment
1-12	Intro to catalysis	Ready	Hegedus, chap 1 and 2	
1-14	Organometallics: intro	Ready		
1-19	MLK holiday			
1-21	Organometallics: intro-2	Ready		
1-26	Kinetics and mech-1	Ready	Lowry and Richardson; sec 2.5-2.7	
1-28	Kinetics and mech-2	Ready		
2-2	Kinetic resolutions	Ready	ACIEE, 2005, 3974	
2-4	Nonlinear effects	Ready	Advanced Synthesis and Catalysis, 2001, 227	
2-9	Addns to pi bonds-1	Ready	Hegedus, chap 3; ACIEE, 2002, pp 1998-2007, 2008-2022	PS1
2-11	Addns to pi bonds-2	Ready	Hegedus, sec. 4.3	
2-16	Addns to pi bonds-3	Ready	Hegedus, sec. 7.3.d; 8.4; 9.2	
2-18	Conjugate addition-1	Ready	Hegedus, sec 4.1-4.2	PS2
2-23	Conjugate addition-2	Ready	Chem Rev. 2003, 2829	
2-25	Carbenes-1	Ready	Hegedus, chap 6	
3-2	Carbenes-2	Ready		
3-4	Exam (9-noon)			Exam
3-9	spring break			
3-11	spring break			
3-16	Metathesis-1	Frantz	Handbook of Metathesis, Grubbs (Vol 1-3)	
3-18	Metathesis-2	Frantz		
3-23	C-H functionalization-1	Frantz	Hegedus, sec 5.4; Chem. Rev. 2002, 102, 1731.	PS3
3-25	C-H functionalization-2	Frantz		
3-30	Addition to olefins-1	Frantz	Hegedus, chap 17	
4-01	Addition to olefins-2	Frantz		
4-06	Cross-Coupling	Frantz	Hegedus, chap 5, Chem Rev. 2002, 102, 1359.	PS4
4-08	Cross-Coupling-2	Frantz		
4-13	Heteroatom arylation	Ready	Tetrahedron, 2002, 2041	
4-15	Allylic Alkylations-1	Frantz	Hegedus, chap 19	Paper choice (L4.247)
4-20	Allylic Alkylations-2	Frantz		
4-22	Reactions of alkynes-1	Frantz	Hegedus, chap 18	PS5
4-27	Reactions of alkynes-2	Frantz		
4-29	Organocatalysis-1	Frantz	Angew. Chem. Int. Ed. 2004, 43, 5138	
5-04	Exam (9-noon)			exam
5-06	Paper due (L4, 247, 5pm)	Ready		paper due (L4.247)