课程名（Coursename）
Inorganic II – Transition Metal Reactivity and Organometallic Catalysis

课程代码（Coursenumber）
B1

课程对象（Audience）
Undergraduate

开课教师（Teacher）
Dr J. M. Rawson and Dr D. S. Wright

学期（Semester）
M 6–8 & L 1–3

课程描述（Description））
In the first part of this course we examine the mechanisms of substitution and electron–transfer reactions in coordination chemistry which helps us to rationalize both their reaction rates and substitution patterns. In the second half of the course we extend our arguments to examine metal-promoted organic transformations which play a fundamental role in catalytic processes such as alkene polymerization and enantioselective synthesis. Well-defined transition metal systems are particularly effective homogeneous catalysts due to the ability of the metal to adopt different geometries, coordination numbers, and oxidation states. By considering a variety of catalytic processes, we shall examine the exact role of the metal in such cycles and discuss how it is possible to ‘tune’ the metal centre by varying both the steric and electronic properties of its ancillary ligands in order to favour a specific reaction outcome. The course will also consider several stoichiometric metal-assisted organic transformations and again examine the particular traits of the metal that allow such reactions to occur.

课时信息（Totalhours）

教参信息（Textbookinfo）
1 Coordination Chemistry by Joan Ribas Gispert (Paperback - May 27, 2008)
ISBN-13: 978-3527318025
世界各地拥有馆藏的图书馆（OCLC）:196
2 Introduction to Coordination Chemistry (Inorganic Chemistry: A Textbook Series) by Geoffrey A. Lawrance (Hardcover - Feb. 22, 2010)
ISBN-13: 978-0470519318
世界各地拥有馆藏的图书馆（OCLC）:111
3 Introduction to Coordination Chemistry by Edward and Ph.D. Lisic (Paperback - June 30, 2005)
ISBN-13: 978-0741427021
世界各地拥有馆藏的图书馆（OCLC）:5
4 Descriptive Inorganic, Coordination, and Solid State Chemistry by Glen E. Rodgers (Hardcover - Jan. 7, 2002)
ISBN-13: 978-0125920605
世界各地拥有馆藏的图书馆（OCLC）:79
5 Rare Earth Coordination Chemistry: Fundamentals and Applications by Chun-Hui Huang (Hardcover - July 6, 2010)
ISBN-13: 978-0470824856
世界各地拥有馆藏的图书馆（OCLC）:29
6 Fundamentals of Heterocyclic Chemistry: Importance in Nature and in the Synthesis of Pharmaceuticals by Louis D. Quin and John Tyrell (Hardcover - July 6, 2010)
ISBN-13: 978-0470566695
世界各地拥有馆藏的图书馆（OCLC）:10
7 Organometallic and Coordination Chemistry of the Actinides (Structure and Bonding) by Thomas E. Albrecht-Schmitt (Hardcover - Sept. 10, 2008)
ISBN-13: 978-3540778363
世界各地拥有馆藏的图书馆（OCLC）:110
8 Infrared and Raman Spectra of Inorganic and Coordination Compounds, Applications in Coordination, Organometallic, and Bioinorganic Chemistry by Kazuo Nakamoto (Hardcover - Jan. 20, 2009)
ISBN-13: 978-0471744931
世界各地拥有馆藏的图书馆（OCLC）:161
9 Integrated Approach to Coordination Chemistry: An Inorganic Laboratory Guide by Rosemary A. Marusak, Kate Doan, and Scott D. Cummings (Hardcover - Apr. 27, 2007)
ISBN-13: 978-0471464839
世界各地拥有馆藏的图书馆（OCLC）:138
10 Systematic Nomenclature of Organic, Organometallic and Coordination Chemistry: Chemical-Abstracts Guidelines with IUPAC Recommendations and Many Trivial Names by Ursula Bünzli-Trepp (Hardcover - Apr. 30, 2007)
ISBN-13: 978-1420046151
世界各地拥有馆藏的图书馆（OCLC）:85
11 Fluxional Organometallic and Coordination Compounds (Physical Organometallic Chemistry) by Marcel Gielen, Rudolph Willem, and Bernd Wrackmeyer (Hardcover - Oct. 1, 2004)
ISBN-13: 978-0470858394
世界各地拥有馆藏的图书馆（OCLC）:85