27235 - Organic Chemistry Insights

Información del Plan Docente

Academic Year	2016/17
Academic center	100 - Facultad de Ciencias
Degree	452 - Degree in Chemistry
ECTS	5.0
Course	4
Period	Second semester
Subject Type	Optional
Module	---

1.Basic info

1.1.Recommendations to take this course

1.2.Activities and key dates for the course

2.Initiation

2.1.Learning outcomes that define the subject

2.2.Introduction

3.Context and competences

3.1.Goals

3.2.Context and meaning of the subject in the degree

3.3.Competences

3.4.Importance of learning outcomes

4.Evaluation

5.Activities and resources

5.1.General methodological presentation

5.2.Learning activities

5.3.Program

ADVANCED ORGANIC CHEMISTRY

1. Asymmetric Synthesis

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1.1. Applications and Concepts

1.2. Accessing EPCs

1.3. Types of Asymmetric Synthesis (diastereo vs enantio)

1.4. Protecting Groups.

2. Transition metal-catalyzed reactions

2.1. Introducción

2.2. Hydroformylation (Rh, Pt)

2.3. Pd-catalyzed allylic substitution

2.4. Cross-coupling reactions

2.5. Olefin metathesis reaction

3. Organocatalysis

3.1. Amine catalysis

3.2. Hydrogen-bonding

3.3. PTC catalysis

3.4. Lewis Base catalysis

4. Introduction to Theoretical Organic Chemistry.

4.1. Computational Approaches

4.2. Concerted reaction. Rearrangements

5. Introduction to Retrosynthetic Analysis

6. New Trends in Organic Chemistry.

6.1. Biological Organic Chemistry (Bioorganic Chemistry)

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5.4.Planning and scheduling

5.5.Bibliography and recomended resources

BB	Dalko,P.I.. Enantioselective Organocatalysis Ed. Wiley-VCH. 2007
BB	Kocienski, P.J.. Protecting groups . - 3rd Ed. Thieme. 2005
BB	Parashar, R.K. Reaction mechanisms in organic synthesis. - 2nd Blacwell 2009
BB	Warren, Stuart. Organic synthesis. The disconnection approach / Stuart Warren . - [1st ed., 11th reprint.] Chichester [etc] : John Wiley and Sons, 1998
BC	Boons,G.J.; Hale, K.J. . Organic synthesis with carbohydrates Ed. Sheffield Academic Press. 2000
BC	Carey, Francis A.. Advanced organic chemistry. Part A, Structure and mechanisms / Francis A. Carey and Richard J. Sundberg . - 5th ed. New York [etc.] : Springer, cop. 2007
BC	Carey, Francis A.. Advanced organic chemistry. Part B, Reactions and synthesis / Francis A. Carey and Richard J. Sundberg . - 5th ed. New York [etc.] : Springer, cop. 2007
BC	Catalytic asymmetric synthesis / edited by Iwao Ojima . - 2nd ed. New York [etc] : Wiley-VCH, cop. 2000
BC	Grossman, R.B.. The art of writing reasonable organic reaction mechanisms. Springer. 1999
BC	Gruttadauria,M.;Giacalone, F.. Catalytic methods in asymmetric synthesis. John Wiley & sons. 2011
BC	Harmata, M.. Organic mechanisms. Ed.

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	Springer. 2007
BC	Hassner,A.; C. Stummer, C.. Organic syntheses based on name reactions and unnamed reactions Ed. Pergamon. 1994
BC	Jackson, R.A.. Mechanisms in Organic Reactions. Ed. RSC. 2004
BC	Merino, P.. Chemical Synthesis of nucleoside analogues. Ed. John Wiley & sons. 2013
BC	Smith, M.B.. Organic Synthesis. Ed. MacGraw Hill.
BC	Starkey, L.S.. Introduction to the strategies for Organic Synthesis. Ed. John Wiley & sons. 2012
BC	Wuts, Peter G. M.. Greene's protective groups in organic synthesis / Peter G. M. Wuts and Theodora W. Greene . - 4th ed. New York : John Wiley and Sons, 2007

Online resources:

	Organic Chemistry Portal - [http://www.organic-chemistry.org/]
	Organic Synthesis - [http://www.orgsyn.org/]