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| Organic Synthesis for Natural Product Stereochemical-Structure -Activity Relationship (S-SAR) Medicinal Chemistry Studies | | | SIGLA: MEC |
| Curso: Mestrado e Doutorado em Ciências da Saúde | | | |
| INFORMAÇÕES BÁSICAS: | | | |
| Professoras responsáveis: George Augustine O'Doherty e Leandro Augusto de Oliveira Barbosa | | | |
| Nível: Mestrado e Doutorado | | Obrigatório ou optativa: Optativa | |
| Área de Concentração: Insumos Farmacêuticos, Compostos Bioativos e Medicamentos. | | Pré-requisito: Não tem | |
| CARGA HORÁRIA | | | |
| Teórica: 15h | Prática: | Total: 15h | Créditos: 1 |
| EMENTA | | | |
| <p>1) Natural Product Synthesis from Structural Proof to Medicinal Chemistry:</p> <p>a) Synthesis of the Cryptocaryols b) Synthesis of Erthronolide c) Synthesis of Amphotericin B d) Synthesis of the Bryostatins</p> <p>2) De Novo Synthesis of the Polyketide Natural Products for S-SAR:</p> <p>a) Iterative hydration approach to polyketide natural products b) Synthesis and medicinal chemistry study of polyketide natural products</p> <p>3) De Novo Synthesis of the Carbohydrate Based Natural Products:</p> <p>a) Iterative dihydroxylation approach to carbohydrates b) De Novo Achmatowicz approach to carbohydrates</p> <p>4) Stereochemical-Structure Activity Relationship Study of Carbohydrates:</p> <p>a) S-SAR study of the cardiac glycosides b) S-SAR study of the resin glycosides</p> | | | |
| OBJETIVOS | | | |
| Aprofundar o estudo da síntese orgânica e da química medicinal. Após o curso os alunos terão conhecimento sobre a síntese de diversos grupos farmacológicos importantes para o desenvolvimento de novos fármacos. Além disso os alunos aprenderam a realizar estudos de efeito estrutura atividade. | | | |
| CONTEÚDO PROGRAMÁTICO | | | |
| <ul style="list-style-type: none"> - Aula 1: Natural Product Synthesis from Structural Proof to Medicinal Chemistry - Aula 2: De Novo Synthesis of the Polyketide Natural Products for S-SAR - Aula 3: De Novo Synthesis of the Carbohydrate Based Natural Products - Aula 4: Stereochemical-Structure Activity Relationship Study of Carbohydrates - Aula 5: Seminários | | | |
| CRITÉRIOS DE AVALIAÇÃO | | | |
| A avaliação será feita a partir da presença e participação do aluno em sala de aula (60%) e de seminários (40%). | | | |

BIBLIOGRAFIA BÁSICA

1. Advanced Organic Chemistry Francis A. Carey, Richard A. Sundberg 5th Edition, 2007 ISBN-13: 978- 0-387-44897-8 Springer .
2. Fundamentals of Heterocyclic Chemistry: Importance in Nature and in the Synthesis of Pharmaceuticals Louis D. Quin, John Tyrell 1st Edition, 2010 ISBN: 978-0-470-56669-5 WileyInterscience.
3. March's Advanced Organic Chemistry. Reactions, Mechanisms, and Structure Michael B. Smith, Jerry March 6th Edition, 2007 ISBN: 978-0-471-72091-1 Wiley.
4. Structure and Reactivity in Organic Chemistry Mark G. Moloney First Edition, 2008 ISBN: 978-1-4051- 1451-6 Wiley-Blackwell.
5. The Organic Chemistry of Drug Design and Drug Action Richard B. Silverman ISBN-13: 978-0126437324 ISBN-10: 0126437327 Edition: 2nd January 26, 2004.
6. Basic Concepts in Medicinal Chemistry Marc Harrold Ph.D (Author), Robin Zavod Ph.D (Author) ISBN-13: 978-1585282661 ISBN-10: 1585282669 Edition: 1, 2013.
7. Medicinal Chemistry for the 21st Century (Chemistry for the 21st Century Monograph) November, 1992 by Camille Georges Wermuth (Author), N. Koga (Author), H. König (Author), B. W. Metcalf (Editor) ISBN-13: 978-0632034086 ISBN-10: 0632034084

BIBLIOGRAFIA COMPLEMENTAR

1. The Organic Chemistry of Drug Design and Drug Action Richard B. Silverman ISBN-13: 978-0126437324 ISBN-10: 0126437327 Edition: 2nd January 26, 2004.
2. Basic Concepts in Medicinal Chemistry Marc Harrold Ph.D (Author), Robin Zavod Ph.D (Author) ISBN-13: 978-1585282661 ISBN-10: 1585282669 Edition: 1, 2013.
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