

NPTEL Video Lecture Topic List - Created by LinuXpert Systems, Chennai

NPTEL Video Course - Chemistry and Biochemistry - NOC:Principles of Organic Synthesis

Subject Co-ordinator - Prof. T. Punniyamurthy

Co-ordinating Institute - IIT - Guwahati

Sub-Titles - Available / Unavailable | MP3 Audio Lectures - Available / Unavailable

Lecture 1 - Aldol Reaction

Lecture 2 - Perkin, Claisen and Thorpe Reactions

Lecture 3 - Reaction of Enolates

Lecture 4 - Mannich Reaction

Lecture 5 - Reaction of Alkenes and Carbonyl Compounds

Lecture 6 - Friedel-Crafts and Prins Reactions

Lecture 7 - Grignard Reagents

Lecture 8 - Organolithium Reagents

Lecture 9 - Organocopper, Organozinc and Organomercury Reagents

Lecture 10 - Ritter Reaction and Gabriel Synthesis

Lecture 11 - Reactions of imines and enamines, synthesis of alkaloids and amino acids

Lecture 12 - Reactions of electrophilic and nucleophilic nitrogens, synthesis of amino acids and peptides

Lecture 13 - Principles, effect of substituents and carbon-carbon bond formation

Lecture 14 - Formylation/acylation and related reactions

Lecture 15 - Nitration, Sulfonation and other reactions

Lecture 16 - Principle, Substitution mechanism and reactions of Benzyne

Lecture 17 - Schiemann Reaction, Ullmann reaction and Stephens-Castro coupling

Lecture 18 - Ziegler Alkylation, Chichibabin Reaction, Von Richter Rearrangement, Smiles Rearrangement, Bamford

Lecture 19 - Preparation, properties and reactions

Lecture 20 - Coupling reactions, Japp-Klingemann reaction and Tiffeneau-Demjanov rearrangement

Lecture 21 - Applications of diazonium salts

Lecture 22 - Wagner-Meerwein rearrangement, Pinacol rearrangement, Benzilic acid rearrangement and Arndt-Eistert

Lecture 23 - Rearrangement of halogen, oxygen, sulfur and nitrogen containing centre

Lecture 24 - Rearrangement to electron-rich carbon

Lecture 25 - Reactivity and several reactions

Lecture 26 - Reactions of sulfur and silicon containing reagents

Lecture 27 - Preparation and reactions of organoborane and organotin reagents

Lecture 28 - Formation of carbon-carbon and carbon-halogen bonds

Lecture 29 - Cu, Mn, Sm, and Sn Based Reactions, Acyloin Condensation

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Lecture 30 - C-N, C-O bond formation and decarboxylation