

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

NPTEL Video Course - Chemical Engineering - NOC:Metallocene and Metal-Carbene based Organometallic Compounds

Subject Co-ordinator - Prof. Sanjib K. Patra

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - A Brief Introduction to Polymers

Lecture 2 - A Brief Introduction to Polymers (Continued...)

Lecture 3 - Polyethylene and Polypropylene: Chemical structure and properties

Lecture 4 - Polyethylene and Polypropylene: Chemical structure and properties (Continued...)

Lecture 5 - Common polymerization protocol and mechanism

Lecture 6 - Common polymerization protocol and mechanism (Continued...)

Lecture 7 - Common polymerization protocol and mechanism: Controlled Polymerization

Lecture 8 - Anionic living polymerization and Coordination polymerization

Lecture 9 - Transition metal/Organometallic complexes: Unique reactions

Lecture 10 - Metallocene compounds: Structure and Bonding

Lecture 11 - Metallocene compounds: Structure and Bonding (Continued...)

Lecture 12 - Bonding in Metallocene, MOT and Electronic nature

Lecture 13 - Bonding and Electronic nature in Bent Metallocene

Lecture 14 - Bonding and Electronic nature in Bent Metallocene (Continued...)

Lecture 15 - General Synthetic Strategies for Metallocenes (Parallel and Bent)

Lecture 16 - Properties and Unique Reactivities of parallel and bent Metallocenes

Lecture 17 - Unique Reactivities of bent Metallocenes

Lecture 18 - Unique Reactivities of bent Metallocenes (Continued...)

Lecture 19 - Coordination polymerization of olefin and stereoregularity

Lecture 20 - Olefin polymerization by Zeigler Natta Catalyst: Important features

Lecture 21 - Coordination polymerization of olefin by Metallocene Catalysts: A new avenue in polyolefin catal

Lecture 22 - Coordination polymerization of olefin by Metallocene Catalysts: A new avenue in polyolefin catal

Lecture 23 - Symmetry of metallocene and Stereoregularity in polyolefin

Lecture 24 - Symmetry of metallocene and Stereoregularity in polyolefin (Continued...)

Lecture 25 - Metallocene to Post-metallocene catalysts for olefin polymerization

Lecture 26 - Metallocene to Post-metallocene catalysts for olefin polymerization (Continued...)

Lecture 27 - Polymerization strategy for industrial preparation of LLDPE

Lecture 28 - Polymerization strategy for industrial preparation of LLDPE (Continued...)

Lecture 29 - Metallocene and Post-metallocene Catalysts: Homogeneous to Heterogeneous and Lab to Industry

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- Lecture 30 - Metallocene and Post-metallocene Catalysts: Homogeneous to Heterogeneous and Lab to Industry (Co
- Lecture 31 - Depolymerization of synthetic polymers: Role of organometallic and metallocene based catalysts
- Lecture 32 - Depolymerization of synthetic polymers: Role of organometallic and metallocene based catalysts
- Lecture 33 - Metal-carbene complexes as versatile catalysts for multiple useful reactions: A short introduction
- Lecture 34 - Metal-carbene complexes as versatile catalysts for multiple useful reactions: A short introduction
- Lecture 35 - Bonding and Electronic properties in Metal-carbene complexes
- Lecture 36 - General synthetic protocol of Metal-carbene complexes
- Lecture 37 - N-Heterocyclic carbene (NHC) complex: Bonding and General synthetic protocol
- Lecture 38 - Alkene metathesis by metal-carbene catalysts and its mechanism
- Lecture 39 - Utility of metal-carbene catalysts in alkene polymerization
- Lecture 40 - Industrially important polymers by ROMP: Recent development and scope; Overall summary of this course