Unit 11 - Week 11

Assignment 11

The due date for submitting this assignment has passed. At this point, you cannot submit this assignment.

The single site catalyst  studied by Nama is:

- $\text{Cu}_2\text{TiCl}_6\text{MgCl}_2$
- $\text{Cu}_2\text{TiCl}_6\text{MgCl}_2$
- $\text{Cu}_2\text{TiCl}_6\text{MgCl}_2\text{AlCl}_3$
- $\text{Cu}_2\text{TiCl}_6\text{AlCl}_3$

No, the paper is incorrect.

Accepted Answer:

- $\text{Cu}_2\text{TiCl}_6\text{MgCl}_2$

For the ethylene polymerisation, the single site catalyst that exhibited superior performance to the Ziegler-Natta catalyst was used with MAO is:

- $\text{Cu}_2\text{ZrCl}_6\text{MAO}$
- $\text{Cu}_2\text{ZrCl}_6\text{MAO}$
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- $\text{Cu}_2\text{ZrCl}_6\text{MAO}$

No, the paper is incorrect.

Accepted Answer:

- $\text{Cu}_2\text{ZrCl}_6\text{MAO}$

The polymerisation of w-siloxane by $\text{Cu}_2\text{ZrCl}_6\text{MAO}$ produces:

- syndiotactic polymer
- isotactic polymer
- syndiotactic polymer
- isotactic polymer

No, the paper is incorrect.

Accepted Answer:

- syndiotactic polymer

The single site catalyst developed by Tomas for the $\omega$-olefin polymerisation is:

- $\text{Cu}_2\text{ZrCl}_6\text{MAO}$
- $\text{Cu}_2\text{ZrCl}_6\text{MAO}$
- $\text{Cu}_2\text{ZrCl}_6\text{AlCl}_3$
- $\text{Cu}_2\text{ZrCl}_6\text{AlCl}_3$

No, the paper is incorrect.

Accepted Answer:

- $\text{Cu}_2\text{ZrCl}_6\text{MAO}$

The polymerisation of w-siloxane by (cyclohexyl)(2-CyC)MAO (c = C2H6, desired = 4,4,5,5-tetramethyl-2-oxazoline) catalyst is:

- syndiotactic
- isotactic
- isotactic
- isotactic

No, the paper is incorrect.

Accepted Answer:

- isotactic

The polymerisation of polypropylene using $\text{CrCl}_3\text{ZrCl}_2\text{MAO}$ (c = C2H6, desired = 4,4,5,5-tetramethyl-2-oxazoline) yields:

- up to 14,000 kg of polypropylene per mol of Zr
- a narrow polymerisation molar mass distribution
- highly branched polymer
- a narrow molar mass distribution

No, the paper is incorrect.

Accepted Answer:

- up to 14,000 kg of polypropylene per mol of Zr

The $\text{Cu}_2\text{ZrCl}_6\text{MAO}$ system in propylene polymerisation:

- produces isotactic polypropylene
- produces syndiotactic polypropylene
- exhibits $\text{C}_2$ symmetry
- exhibits $\text{C}_2$ symmetry

No, the paper is incorrect.

Accepted Answer:

- exhibits $\text{C}_2$ symmetry

The calculation for the stereo regular incorporation of monomers in propylene polymerisation is given by:

- step growth mechanism
- chain growth reaction
- molar-mass-weight mechanism
- push-pull mechanism

No, the paper is incorrect.

Accepted Answer:

- molar-mass-weight mechanism

In order to increase the degree of polymerisation, the modification of $\omega$-olefin systems type catalyst can be done by:

- decreasing the choice of olefins coordination to the metal sector
- by decreasing the ionicity
- replacement of the $\text{CrCl}_3\text{ZrCl}_2\text{MAO}$ bridging moiety with a $\text{CrCl}_3\text{ZrCl}_2\text{MAO}$ bridging moiety
- replacement of the $\text{CrCl}_3\text{ZrCl}_2\text{MAO}$ bridging moiety with $\text{SiMe}_3\text{Cl}$ bridging moiety

No, the paper is incorrect.

Accepted Answer:

- replacement of the $\text{CrCl}_3\text{ZrCl}_2\text{MAO}$ bridging moiety with $\text{SiMe}_3\text{Cl}$ bridging moiety

In order to increase the degree of polymerisation, the modification of $\omega$-olefin type catalyst, (cyclohexyl)(2-CyC)MAO (c = C2H6, desired = 4,4,5,5-tetramethyl-2-oxazoline) can be done by:

- replacing the tetramethyldisiloxene ligand with a benzene ligand
- replacing the tetramethyldisiloxene moiety with CP ligand
- replacing the tetramethyldisiloxene moiety with 4,4,5,5-tetramethyl-2-oxazoline
- replacing the tetramethyldisiloxene moiety with paraformaldehyde substituted indene ligand

No, the paper is incorrect.

Accepted Answer:

- replacing the tetramethyldisiloxene moiety with paraformaldehyde substituted indene ligand