

GUEST LECTURE
ON
METHODS FOR DETERMINING REACTION MECHANISM
(8-06-2020)

PG Department of Chemistry organised an online guest lecture by Dr. B. Haribabu, Associate Professor, Acharya Nagarjuna University, Guntur on 8th June, 2020 at 4.00 pm to M.Sc Organic and Analytical Chemistry on Methods for Determining Reaction Mechanism.

In his lecture he covered the following topics

- Kinetics of a reaction
- Energetics of a reaction
- Intermediate vs Transition state
- Energy profile diagrams
- Trapping of an intermediate
- Isolation of intermediates
- Crossover experiments
- Isotopic labelling

The screenshot shows a Google Meet interface. The main window displays a presentation slide with the following text: "METHODS FOR DETERMINATION MECHANISM OF A REACTION BY KINETIC AND NON-KINETIC STUDIES" and "By Dr. B. Hari Babu, M.Sc., Ph.D Associate Professor". The meeting title is "Hari Babu Bollikolla is presenting". On the right, the "Meeting details" panel shows a list of 34 participants, including anuradha devalla, Bhagyasri sarkavarapu, ch srinivas, Durga lalitha, Gokarla Naresh, Hari Babu Bollikolla (Presentati...), Hari Babu Bollikolla, Jyothimangalagiri Managalagiri, and kanda chandrika. The bottom of the screen shows a grid of participant video thumbnails with names like Hari Babu Bollik..., padmapriya chi..., Nikki Katakam, venkata srujana, sai kushal, and Yaswanth Kumar.

REC H Hari Babu Bollikolla is presenting Neha rachakonda and 32 more 4:21 PM You

INTERMEDIATE VS. TRANSITION STATE

- As intermediate in a chemical reactions may be defined as the species which is formed from the reactants and which under reaction conditions will be converted into product or products.

Ex:-1) Conversion of N-Bromoacetamide to isocyanates in basic solution.

$$\text{CH}_3\text{CONHBr} + (\text{OH})^- \longrightarrow \text{CH}_3\text{N}=\text{C}=\text{O} + \text{Br}^- + \text{H}_2\text{O}$$

In this case the anion of CH₃CONHBr is an

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When the reactions carried out in deuterated trichloroacetic acid (CCl₃COOD), no deuterium enters the desoxy compound.

$$\begin{array}{c} \text{O} \text{ H} \\ | \\ \text{R}_2 \text{ C} - \text{H} \end{array} \rightleftharpoons \begin{array}{c} \text{O} \text{ D} \\ | \\ \text{R}_2 \text{ C} - \text{H} \end{array}$$

The hydrogen in desoxy compound forming C-H bond, did not come from Solvent and therefore must have come from the starting material.

Presentation (Hari Babu Bollikolla)