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Hovedmøde sammen med Sektionen for Uorganisk Kemi:

Mandag 31. marts 2008 kl 17

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"Structure Determination of Unstable Reaction Intermediates"

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Abstract:

Recently the precise X-ray crystal structure analysis using the two-dimensional detector made it possible to observe the structures of unstable reaction intermediates. If the intensity data were collected after the crystal was irradiated with the xenon or mercury lamp, the structure of the intermediate produced in the photo-reaction was clearly determined.

The unstable colored species of photochromic salicylideneaniline crystals, the unstable structures of the radical pairs produced from hexaarylbiimidazols, the carbenes produced from diaryldiazomethane and the nitrenes produced from phenylazides were analyzed successfully and the reaction processes were confirmed by the intermediate structures.

Moreover, irradiating the crystal with the mercury lamp, the intensity data were collected. The structures at the equilibrium state between the ground and excited states were determined by X-rays. The structures at the excited state were clearly estimated. A variety of the chemical reaction processes will be directly made clear by X-ray crystal structure analysis in near future.

Efter foredraget vil der blive serveret smørebød, øl og vand samt kaffe og te.