PRISM **ELECTRONICS SYSTEMS**
(Division of Electronics Instrumentation & Lab Equipments)

Chemical reactions using UV-VIS (FLX-01) Photo reactor

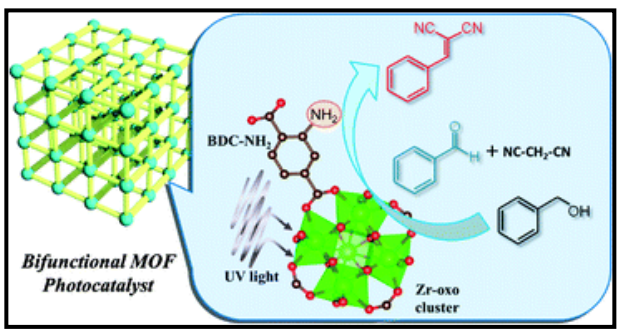
Photochemistry science is based on the interaction of molecules with spectra of light to produce unique molecular changes. The benefits of photo- chemistry are high yields and simplicity of control. Photochemical systems are ideal for "free radical" reaction mechanism. Applications are:

- Halogenations of organic compounds
- Production of primary mercaptans
- Oxydations
- Isomerizations
- Polymerizations
- Photolysis of toxic wastes

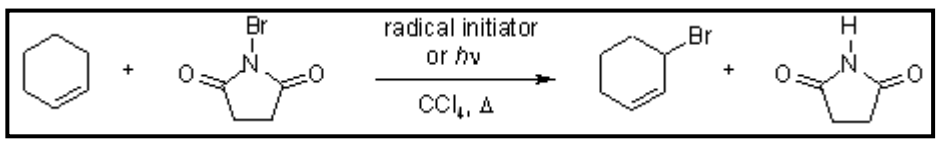
The products of industrial photo- chemical reactions are agricultural chemicals, intermediates, capro- lactam, and vitamin D, among other substances. Photochemistry is also used in the curing (polymerization) of specially formulated printing inks and coatings.

We can carry out out following reaction in photochemical reactor

1. **Oxidation- Reduction Reaction (**Photochemical reduction of carbonyl compounds, Photo oxidation of Alkenes etc).
2. **Rearrangement reactions** (Eg:Di-π-methane, Lumiketone rearrangement Pinacole-pinacolone rearragement etc).
3. **Cyclization Reaction** (Knoevenagel condensation reaction to produce benzylidenemalononitrile from benzyl alcohol and malononitrile under UV-light irradiation.)



4. **Bromination Reaction** (e .g Bromination of cyclohexene using NBS).



5. Various type of reaction in which photolight act as activator.
6. Photolysis of toxic wastes