



SPECIAL TECHNOLOGIES AND REACTIONS

Special Technologies

- High-pressure reactions up to 64 bar: H₂, CO, NH₃, Amines, CO₂
- Cryogenic: -80°C
- Supercritical Fluid Chromatography (SFC), Simulated Moving Bed Chromatography (SMB)
- Ultra low vacuum distillation
- High performance extraction

Reactions Types

- Heterogeneous / homogeneous catalysts
- Enantioselective Chemistry
- Sugar Chemistry
- Bromination
- Chlorination
- Cyanation, Strecker Reaction
- Hydrazine Chemistry
- Methylation, Carbonylation, Carboxylation, Hydrogenation
- Nitration
- Organometallic Chemistry
- Hydride Reduction and Handling
- Diazotation, Cyclopropanation
- Oxidation
- Reduction



EXAMPLES OF SPECIAL REAGENTS

- Cl_2 , SOCl_2 , SO_2Cl_2 , POCl_3 , PCl_3 , PCl_5 , NCS, Oxalyl Chloride, C_2Cl_6
- Br_2 , POBr_3 , PBr_3 , NBS, HBr, NaBrO_3
- I_2 , NaI, NIS
- NaF, KF, DAST
- NaCN, KCN, $\text{Zn}(\text{CN})_2$
- H_2 , CO, CO_2 , NH_3 , HNR_2
- $\text{NH}_2\text{NH}_2 \cdot \text{H}_2\text{O}$, Alkylhydrazines
- LiAlH_4 , AlH_2R_2 , BH_3 , NaBH_3CN , NaH, LiBH_4 , NaBH_4
- Me_2SO_4 , MeI and other Alkylhalides
- conc. HNO_3 , $\text{HNO}_3/\text{H}_2\text{SO}_4$, HNO_3 / glacial AcOH, Nitrous acid (HONO)
- Grignard, BuLi, HexLi, LDA, LiHMDS, Organo Zinc (in-situ), LTB, KTB
- HNO_3 , KMnO_4 , mCPBA, DDQ, H_2O_2 , $(t\text{-BuO})_2$, peracids, Oxone, NaIO_4
- Chloroformates
- P_2O_5 , HOBT (hydroxybenzotriazole), DIAD (diisopropylazodicarboxylate)
- Thiols (e.g. Ethanethiol)
- Raney Nickel

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Let's discuss your specific manufacturing challenges today!
Contact us at: CDMO@kdpharmagroup.com