

# New Designer Resolving Agents

Resolution by diastereomeric salt formation is one of the oldest technologies to obtain enantiopure products.

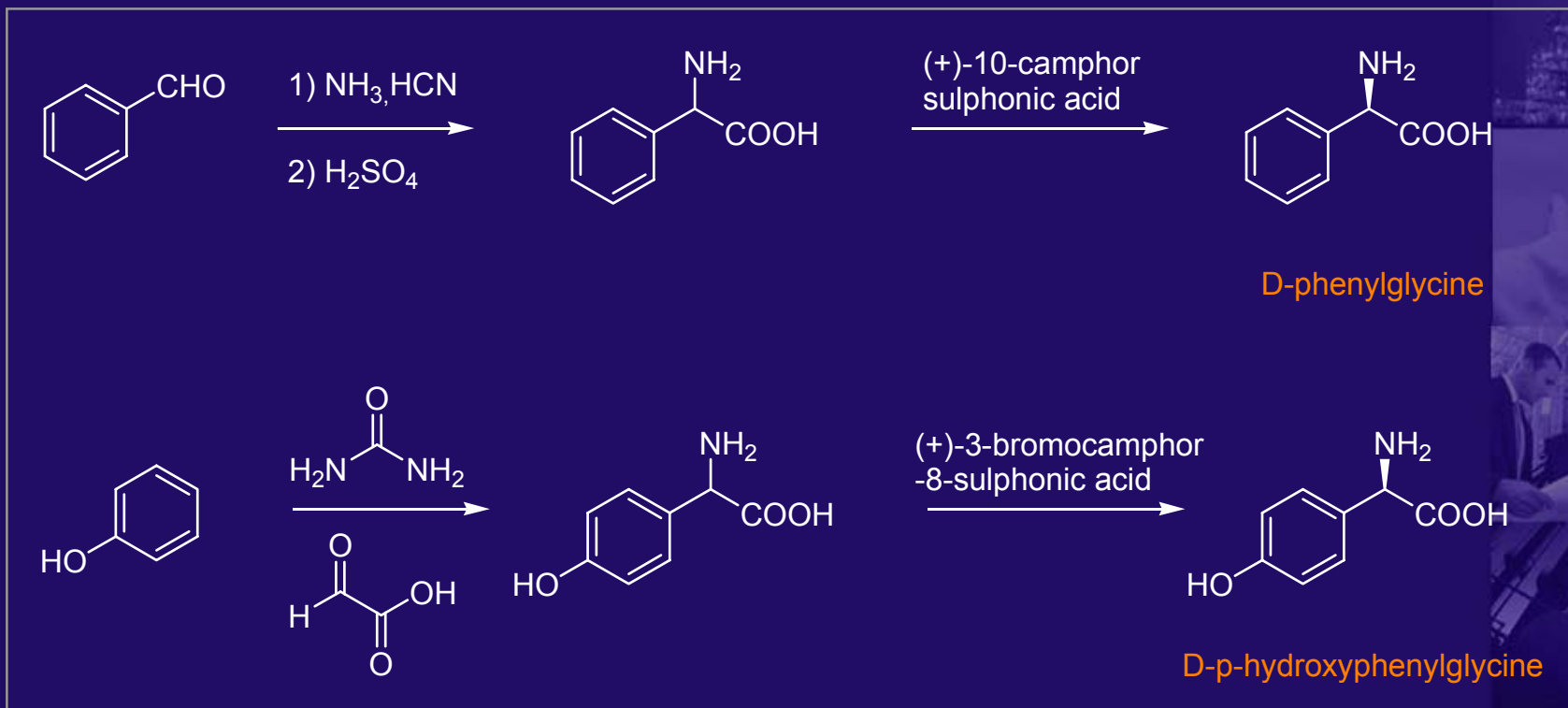
At DSM various products were and still are obtained by this technology. Some of the older examples are D-phenylglycine and D-p-hydroxyphenylglycine.

The constant need for more efficient resolutions lead to the development of strongly acidic phosphoric acid and sulphonic acid resolving agents



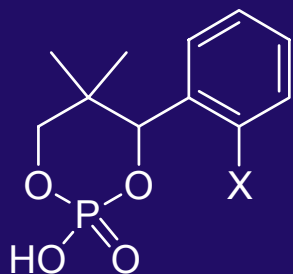
# Classical examples of DSM's resolution technology

Unlimited. **DSM**



- Both resolutions are performed with 0.6 equiv of resolving agent in aqueous HCl solution (method of Pope and Peachey)
- Resolving agents are recycled
- Unwanted enantiomer is racemized in a separate recycle step

## New resolving agents

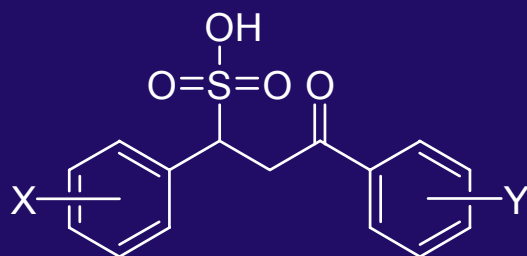


X = H, Cl, OMe

### Cyclic phosphoric acids

Eur. Pat. Appl EP 180,276 (1984), to DSM

W. ten Hoeve et al, J. Org. Chem. (1985) 50, 4508



X, Y = H, Me, OMe, Cl

### Chalcone sulphonic acids

PCT Int. Appl. WO 01/014327, to DSM

T.R. Vries, et al, Synthesis (2002), in preparation