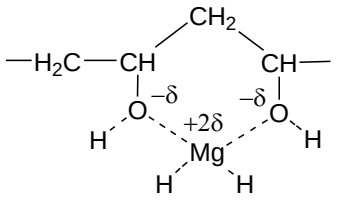
PVA chain  -$H_2C$-CHOH-$CH_2$-CHOH-

$MgH_2$ ↓




$MgH_2$ / PVA macro-initiator

Ring opening polymerization ↓ from one propagating alkoxide

PVA graft copolymers