

# SL 02

## MOLECULAR WEIGHT CONTROL IN EMULSION POLYMERIZATION BY CATALYTIC CHAIN TRANSFER

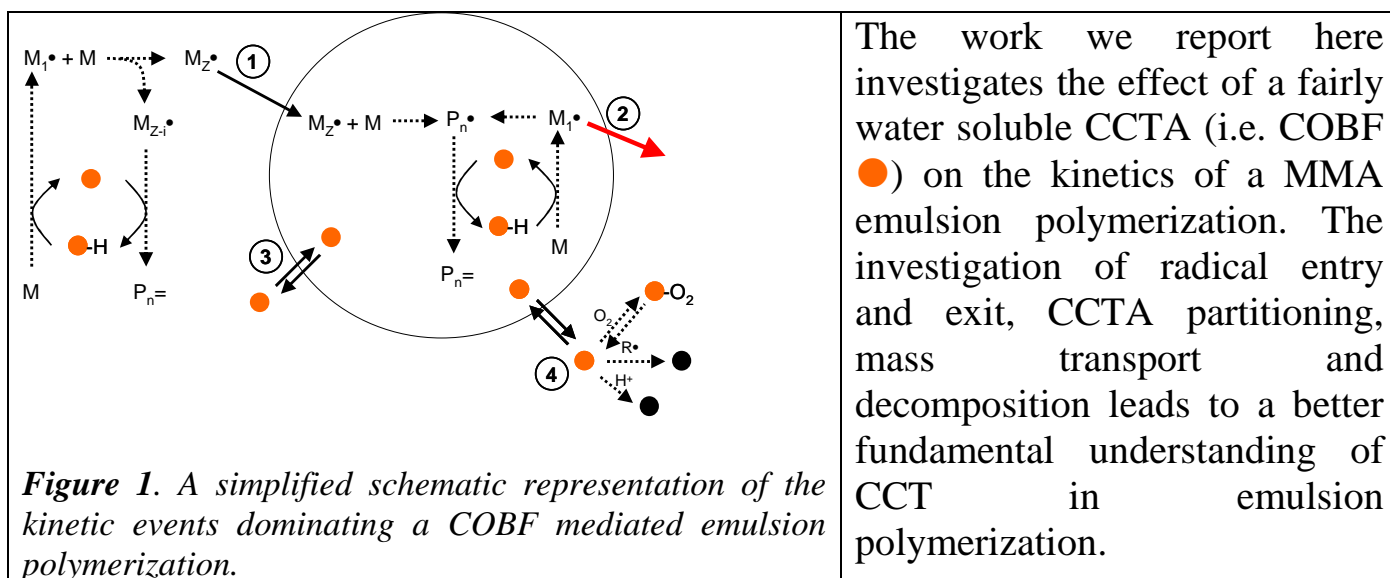
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Conventional chain transfer agents (CTA) (i.e. mercaptanes) generally are very hydrophobic and predominantly partition towards the monomer phase in an emulsion polymerization. Hence, hardly any chain transfer will occur in the aqueous phase and no influence of these CTA's on the emulsion polymerization kinetics is observed. Catalytic chain transfer agents (CCTA) however, often possess increased aqueous phase solubility and in combination with the high catalytic activity, this can result in a severe change of the polymerization kinetics, see Figure 1.



Final objective is to apply these catalysts in continuous emulsion polymerization to tailor the molecular weight distribution of the final polymer product.