



SC

CHIM2261 Chimie macromoléculaire I

[22.5h] 2.5 credits

Teacher(s): Jean-François Gohy
Language: french
Level: 2nd cycle course

Main themes

Chapter 1 : Introduction: - historical and perspectives - polymer structure - classification of polymerisation reactions. Chapter 2 : Deeper study of homogeneous radical polymerisation: - general scheme - global kinetic with small conversion rate - kinetic with high conversion rate - stereochemistry of radical polymerisation - transfers, inhibition and length of the kinetic chain. Chapter 3 : Heterogeneous radical polymerisation : - mass polymerisation with precipitation of the polymer - polymerisation of ethylene under high pressure - polymerisation in suspension - polymerisation in emulsion. Chapter 4 : Radical copolymerisation : -variation of the composition of the copolymer, depending on the values of r_1 and r_2 - copolymerisation modified by the complexes of charge transfer - experimental determination of r_1 and r_2 - structure and reactivity of monomers - radical copolymerisation speed. Chapter 5 : Polymerisation of dienes by radical route : - copolymerisation of a diene with independent vinyl groups with a monomer of the same reactivity - polymerisation of linked dienes - cyclopolymerisation of 1-6 heptadienes - greffing of styrene and of the acrylonitrile on polydienes.

Other credits in programs

CHIM22 Deuxième licence en sciences chimiques (2.5 credits)