

Plastic

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<http://web.me.com/whitby/Octahedron/Welcome.html>

Reference

Octahedron1stEd.pdf–bookmark PLASTIC–pages 214-216

Introduction

This material is excerpted from *Octahedron*.

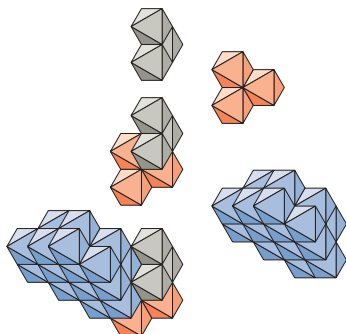
PLASTIC

Styrene

The styrene monomer consists of a pair of C-atoms cleftly-joined and a C₆-group which is cleftly-joined to one of the C-atoms. The figure

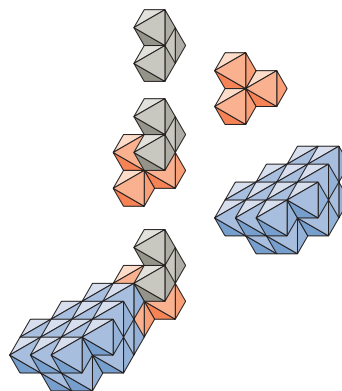
shows the assembly of a styrene monomer.

Another styrene monomer can be formed from the same atoms but with a different cleft-join between the C₆-group and the C-atom. In the first monomer, the join is right-handed; in the second assembly, the join is left-handed.



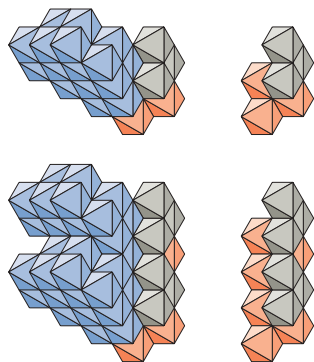
Styrene monomer, type I

The join between the C₆-group and the red C-atom is right-handed.

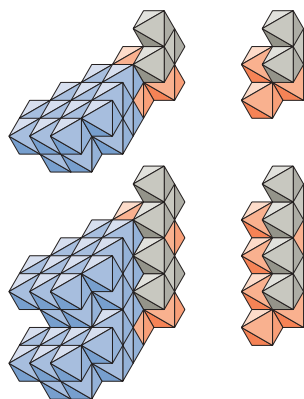


Styrene monomer, type II

The join between the C₆-group and the red C-atom is left-handed.



Styrene polymer

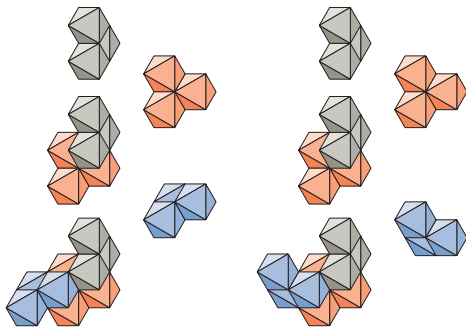


Styrene polymer type 2.

Propylene

Type 1 can only form a chain with its backbone atoms, but type 2 can form a chain in two directions.

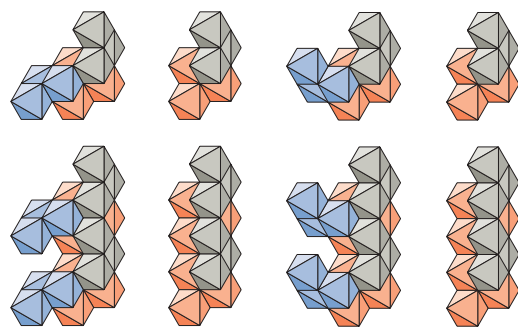
Propylene monomers



Type 1

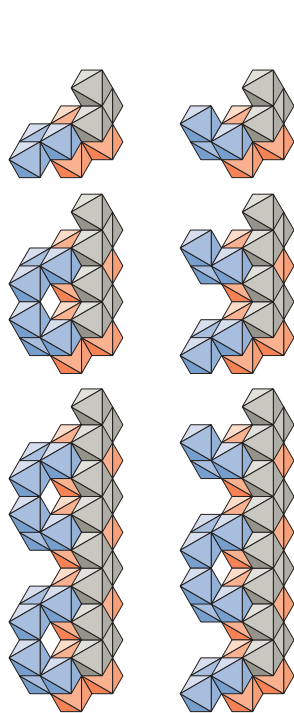
Type 2

Propylene polymers

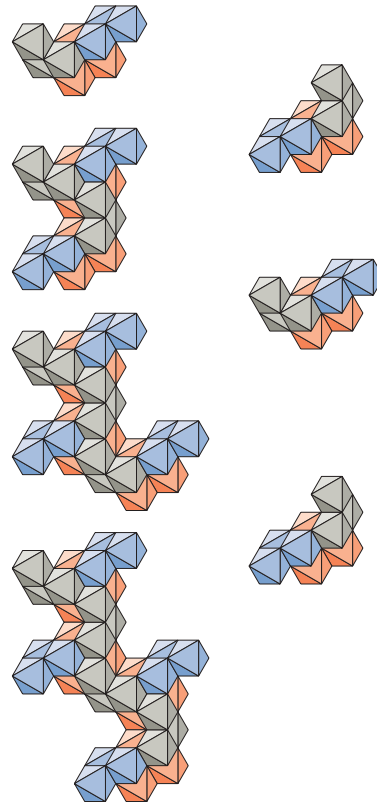


Type 1

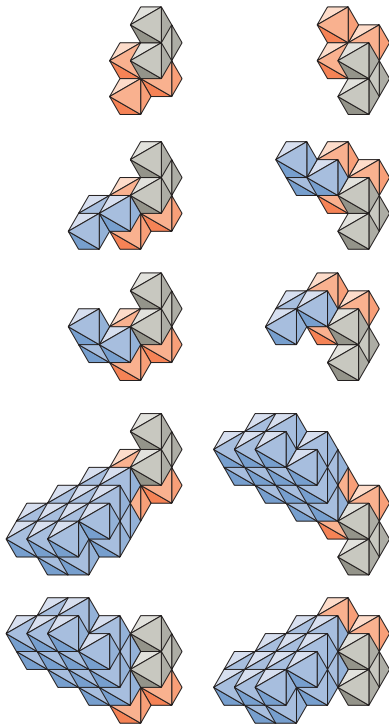
Type 2



Propylene polymer, syndotactic



Propylene polymer, type 1, mixed hand

**Handedness of monomers**

The monomers of styrene and propylene in the column on the left have main chain C-atoms joined left-handedly. Those in the right column have main chain C-atoms joined right-handedly.