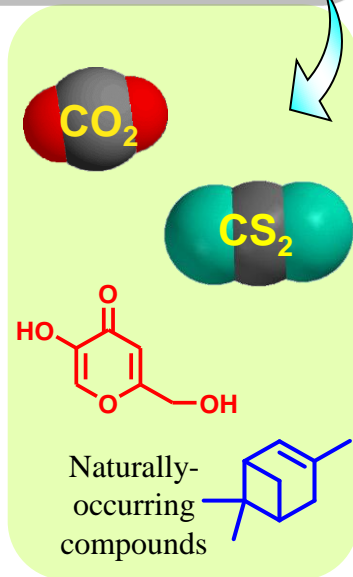
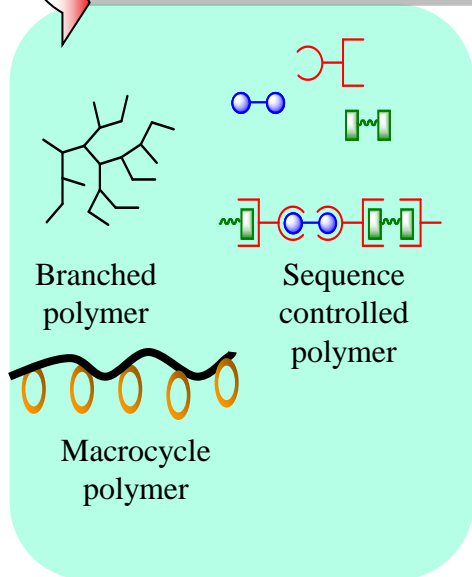


Development of functional materials from naturally abundant resources

Professor Bungo Ochiai

Unique functional materials
from
Cheap and/or abundant
resources



Content :

Drain of natural resources, including petroleum and metals, is a severe problem. Accordingly, synthetic methods for functional materials from abundant resources are very demanded subjects.

In this point of view, our research group develops functional materials from abundant resources and methods to improve sustainable society. Examples of the resources used are carbon dioxide existing abundantly in air, carbon disulfide obtainable from coals and sulfur, and organics from plants.

We developed materials for selective rare-metal absorption, electronic devices, optics, adhesives, and separation using these resources.

We also develop new synthetic methods for functional materials. Examples of our achievements are three-component polyaddition with quantitative atom economy, controlled polymerization accompanied by macrocycle formation (e.g., 19-membered ring), and free radical graft copolymerization with controllable molecular weight.

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