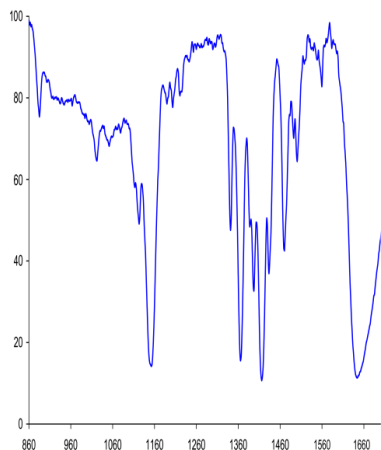


COMPONENTS OF COMPOSTABILITY



Environmental safety

Chemical characteristics
(Heavy metals)

Ecotoxicity
(Effect on plants)

Degradation

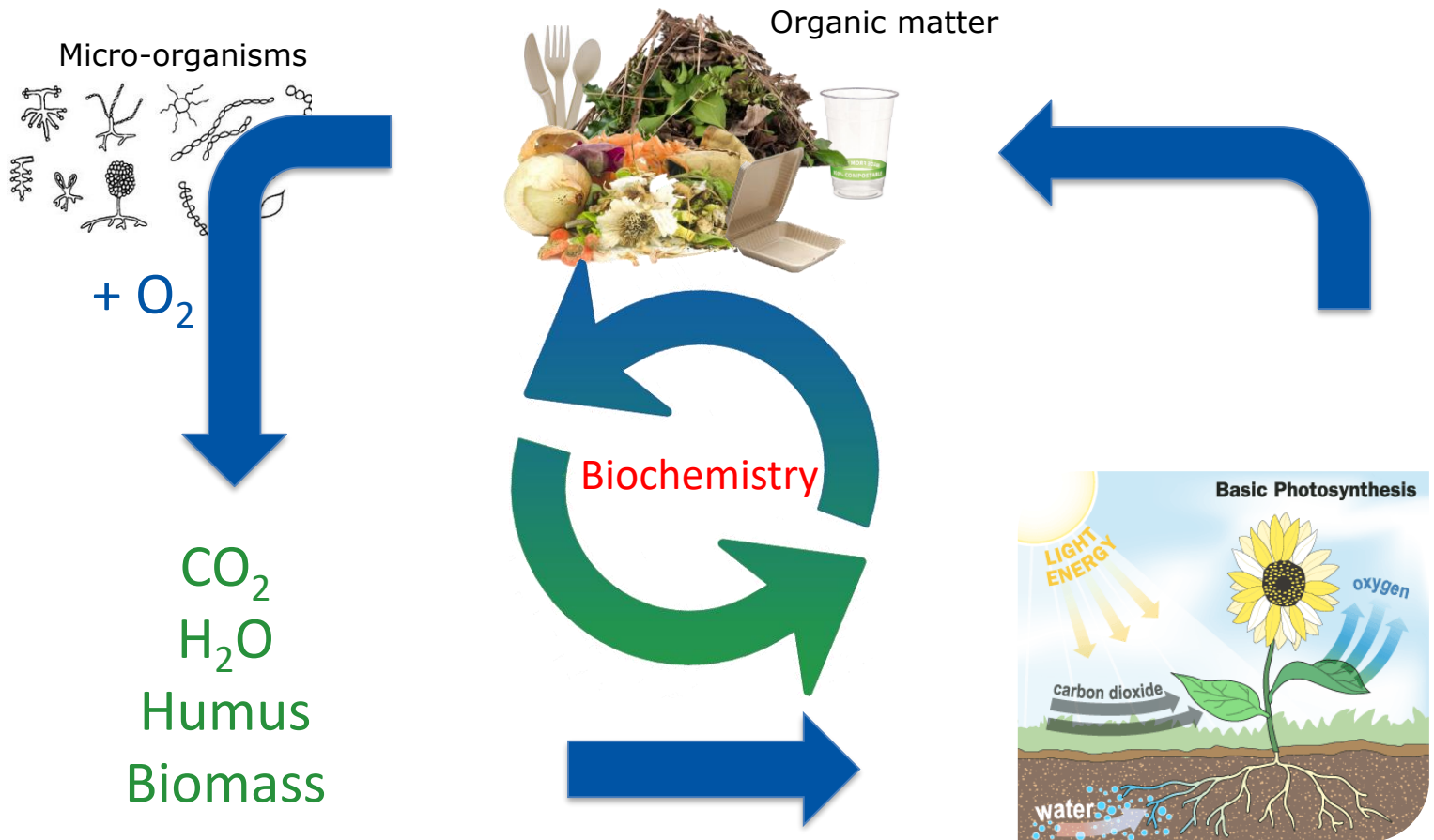
Biodegradation
(Degradation on a chemical level)

Disintegration
(Degradation on a physical level)



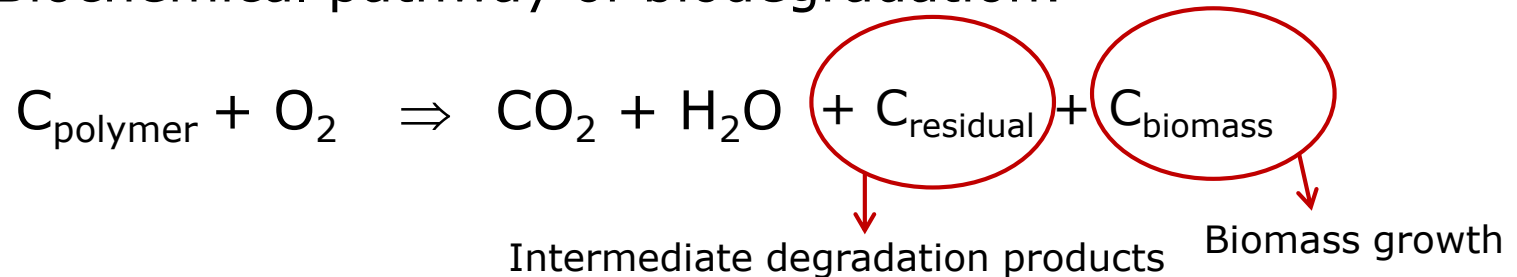
AEROBIC BIODEGRADATION

- Mineralization from polymeric substances to minerals and biomass



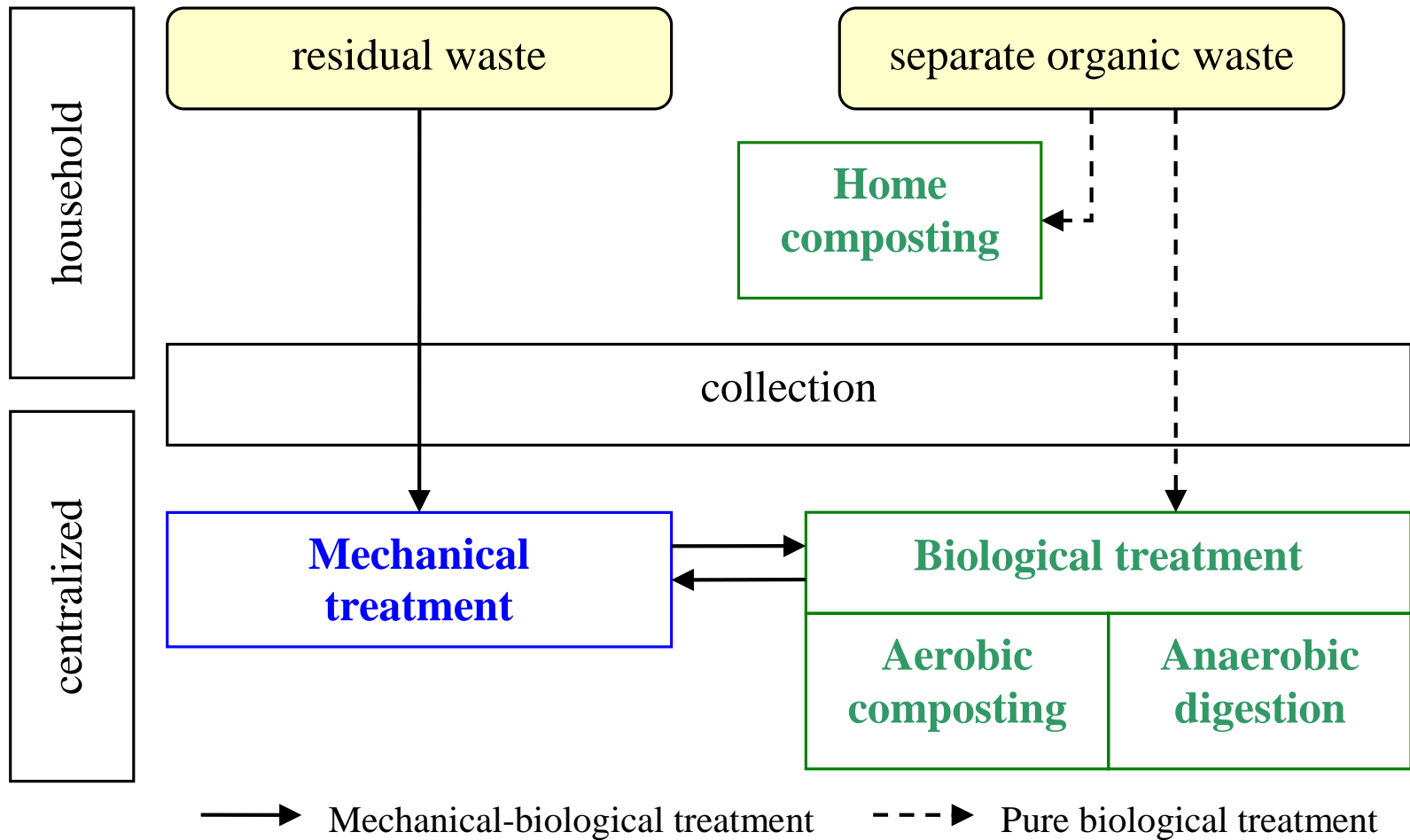
COMPLETE BIODEGRADATION

- Only scientific correct parameter is conversion to CO₂
- Biochemical pathway of biodegradation:



- **Not all C_{polymer} is converted to CO₂!**
- Latest standards on compost-soil-aquatic biodegradation : complete biodegradation = **90%** carbon conversion
- Is NOT 10% microplastics

ORGANIC WASTE MANAGEMENT



INDUSTRIAL vs HOME COMPOSTING



- Temperature
- Management
- Duration



PROS & CONS OF COMPOSTABLE PLASTICS

OPPORTUNITIES	CHALLENGES
<ul style="list-style-type: none">• More waste = more income• Co-benefit effect!• C-source (C/N ratio)• Bulking agent• Better odour control)• Higher recovery of biowaste	<ul style="list-style-type: none">• Feedstock quality• Communication• Technical limitations (duration → mature compost?)• Legal restrictions