



Zero Waste Water Purification

Invented by
Derk Chandra

**well integrated
water conservation
programs to help solve
“world water crisis”**





Zero Waste Water Purification at a glance

**Treatment Methodology:
enzymatic decomposition
of waste water substrates
and
ionized purification
process**

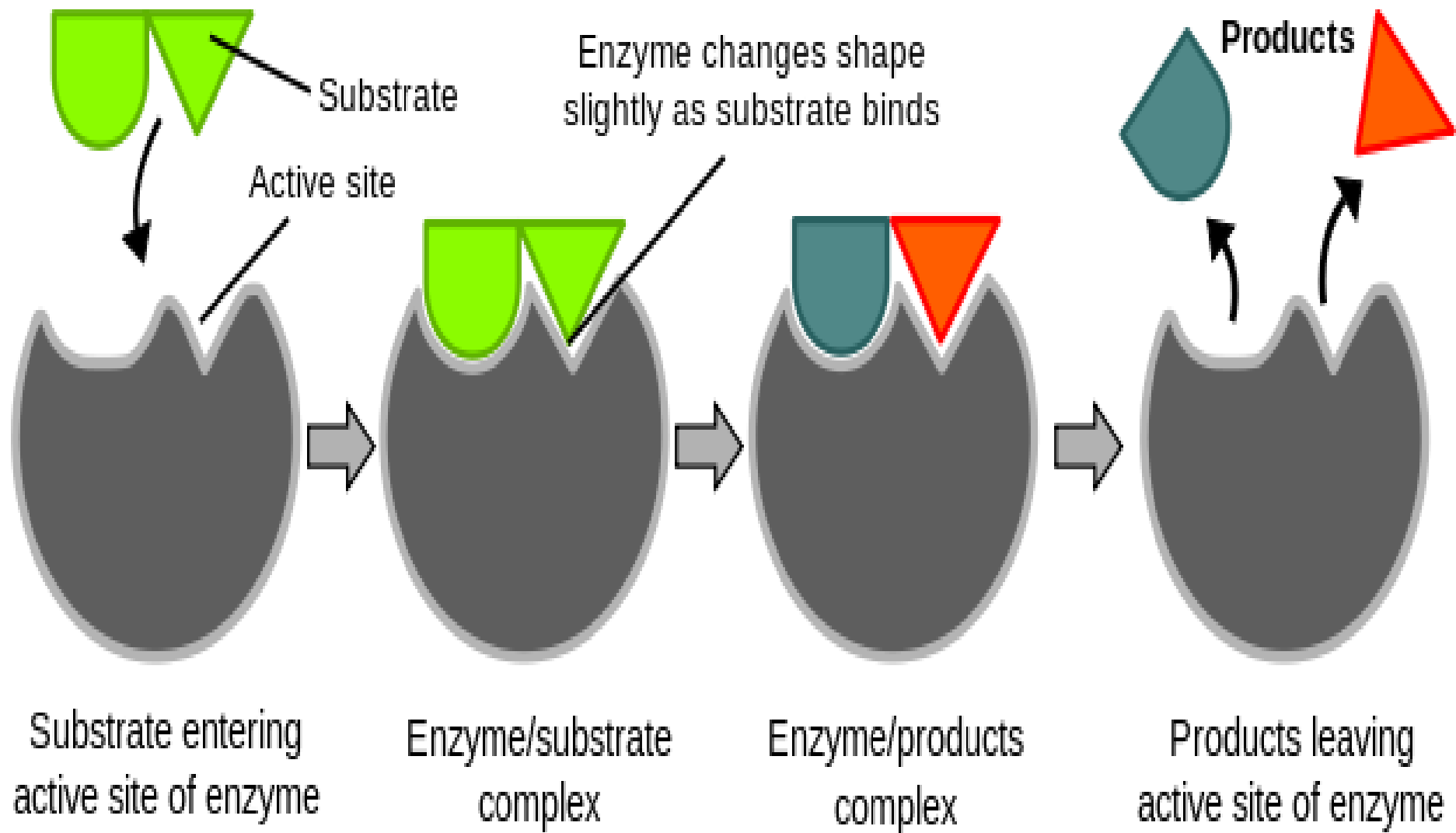


ZWWP Advantages :

- ▶ environmentally friendly, economical and simpler system
- ▶ no bio-organism, no filtration and free of chemicals
- ▶ through final sterilization process, water will be sanitized thus making it free from harmful microorganism
 - ▶ therefore all waste water will be fully reusable



How does
enzyme
work ?



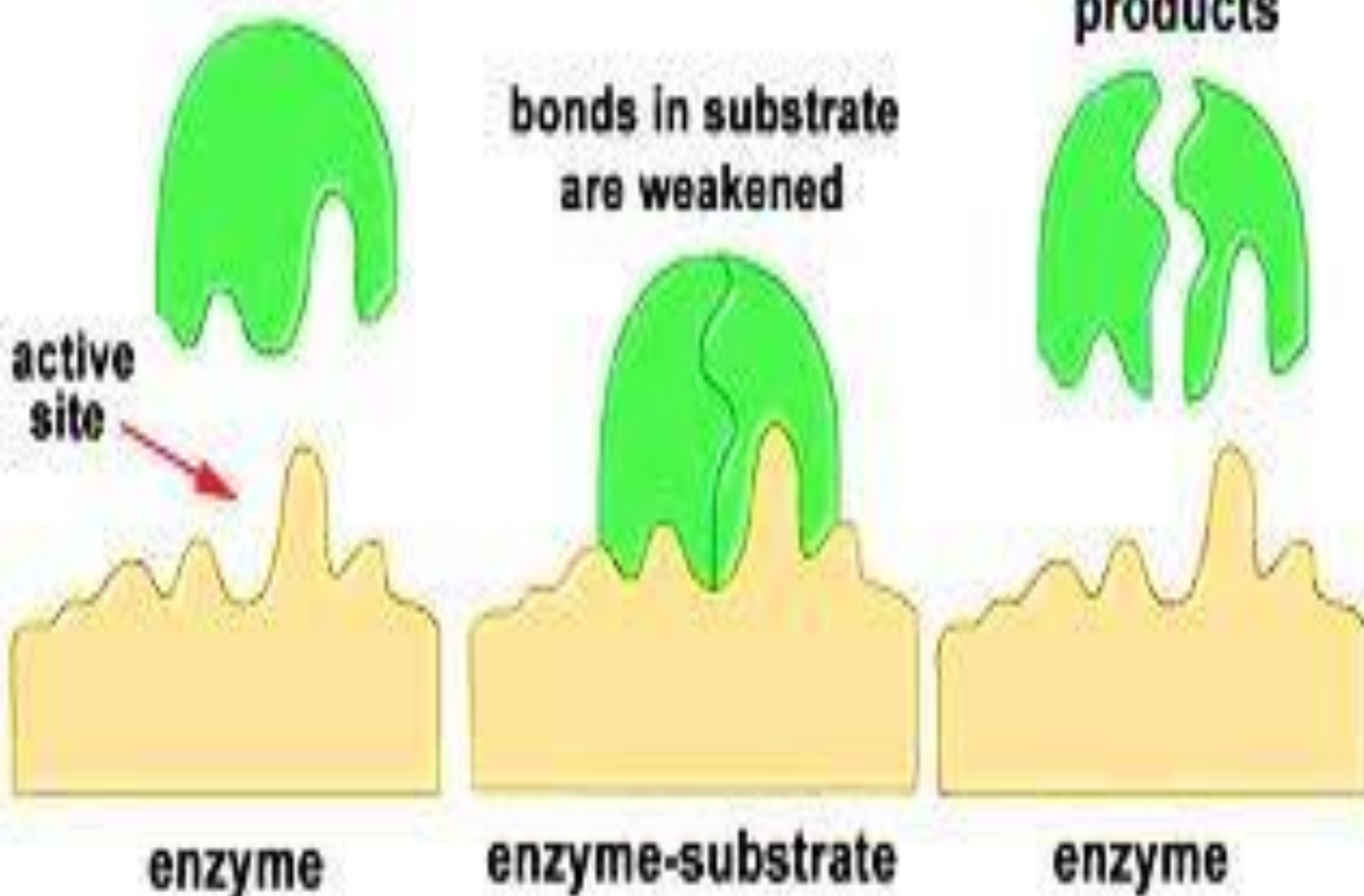
substrate

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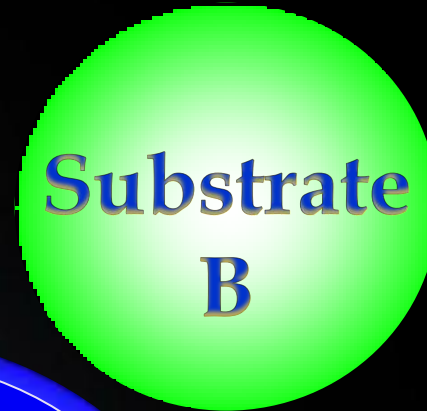
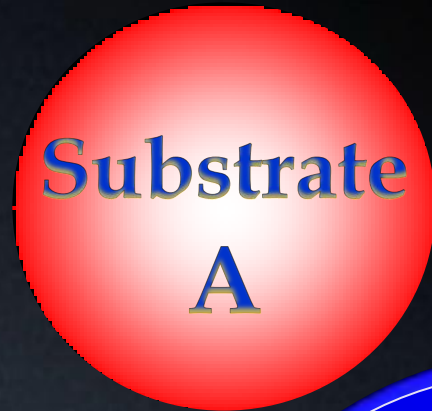
products

**bonds in substrate
are weakened**

**active
site**

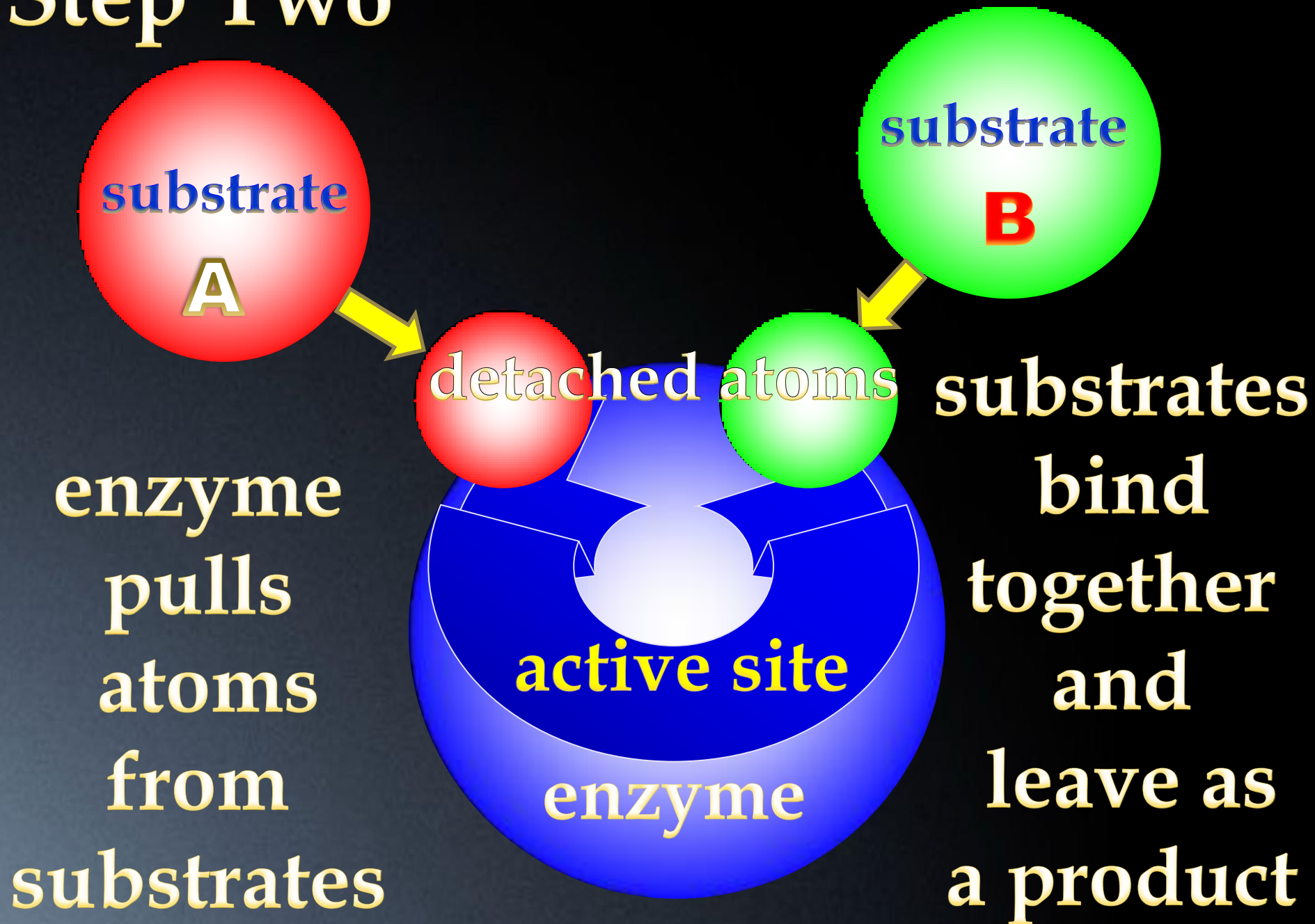


Step One

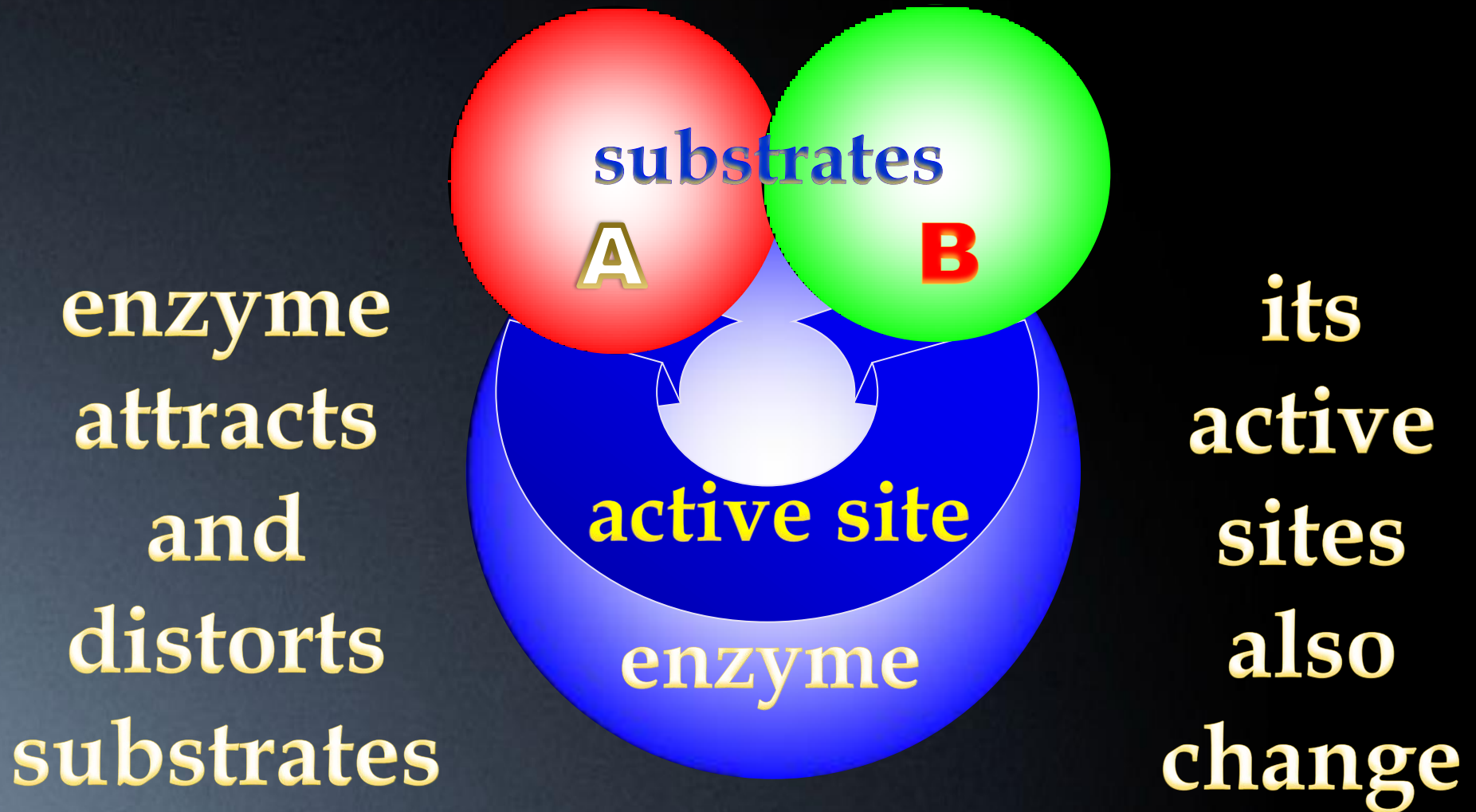


substrates
approach
enzymes
active
sites

Step Two

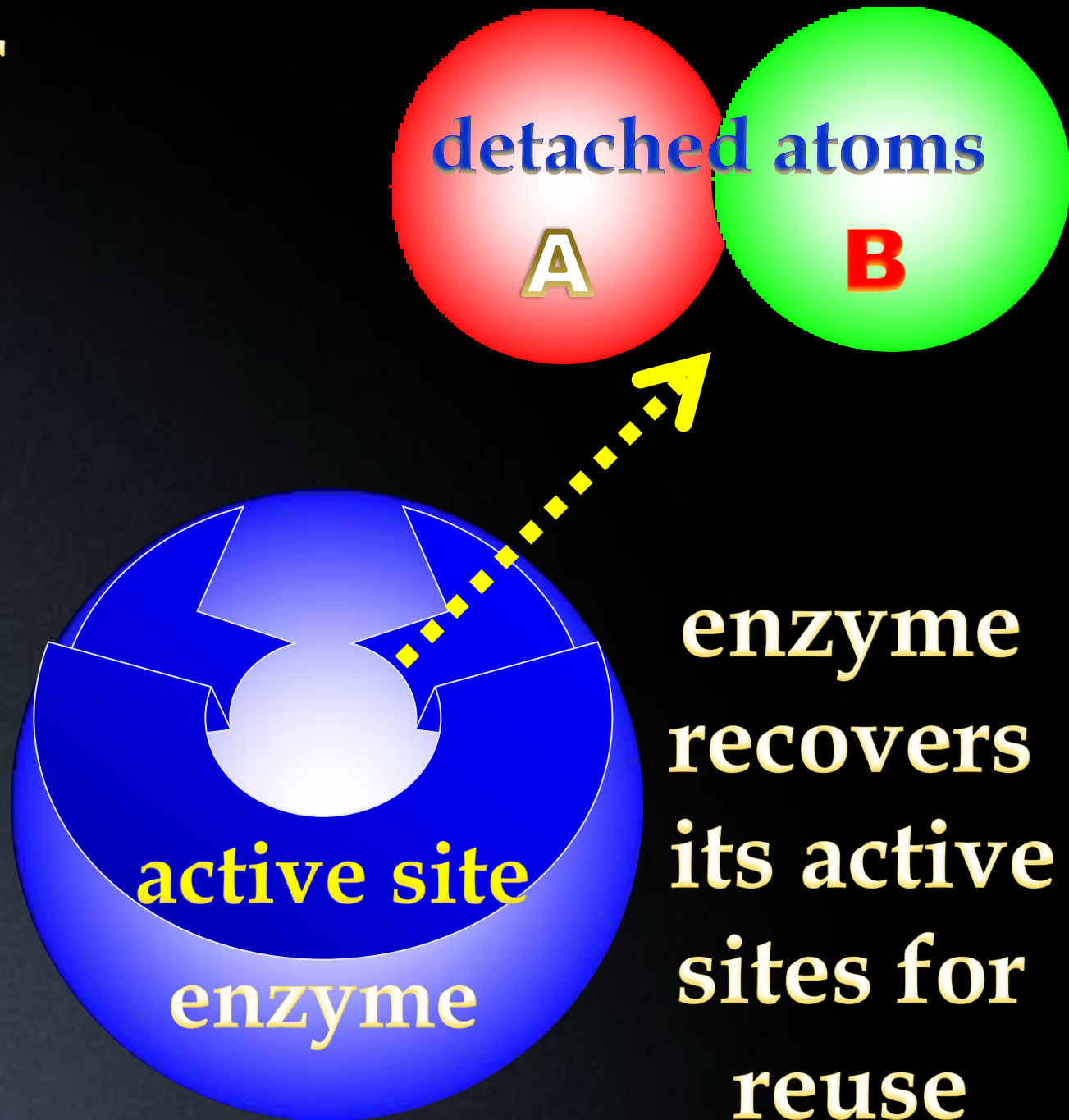


Step Three



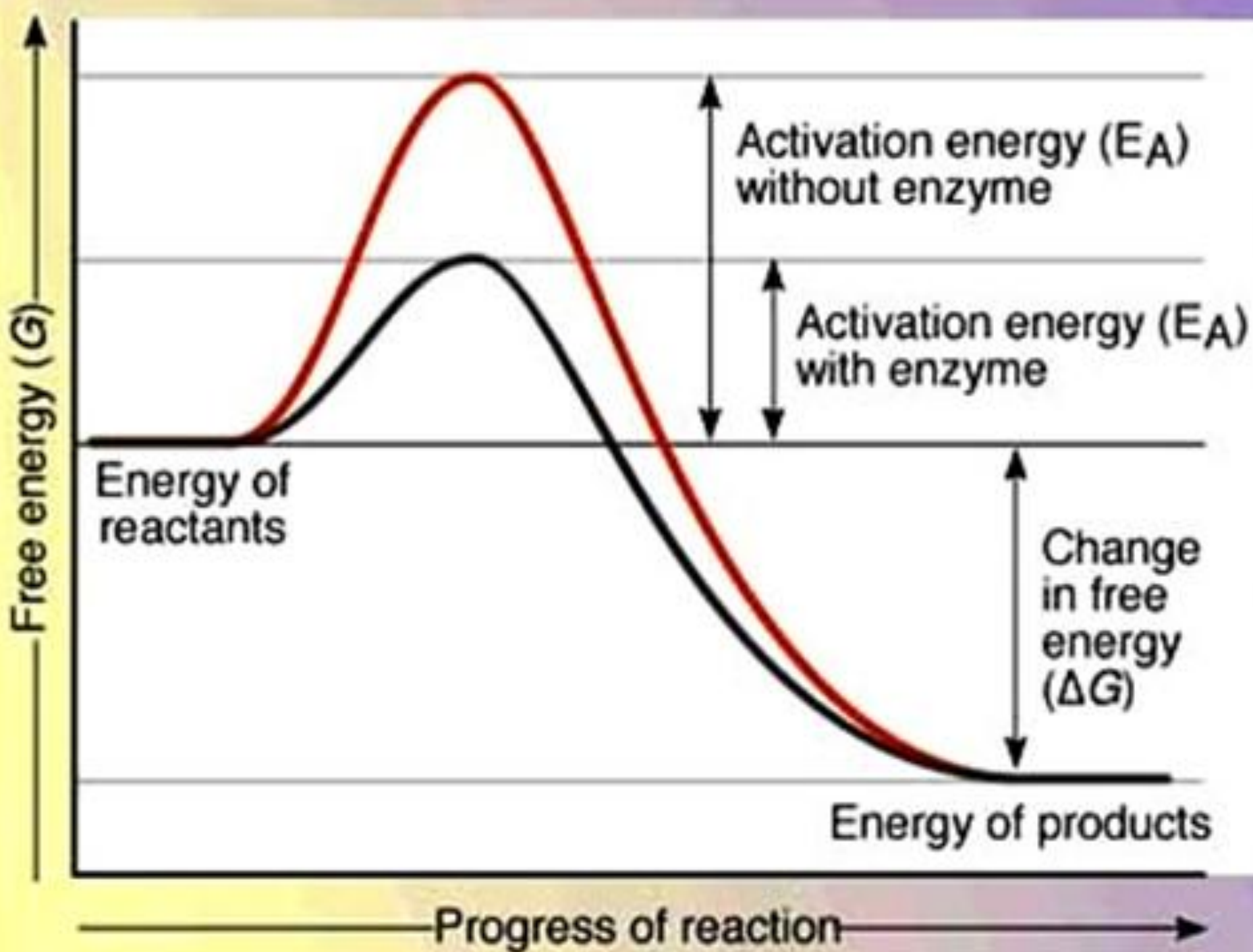
Step Four

detached
atoms
combine
and leave





How
enzymes
lower
activation
energy ?



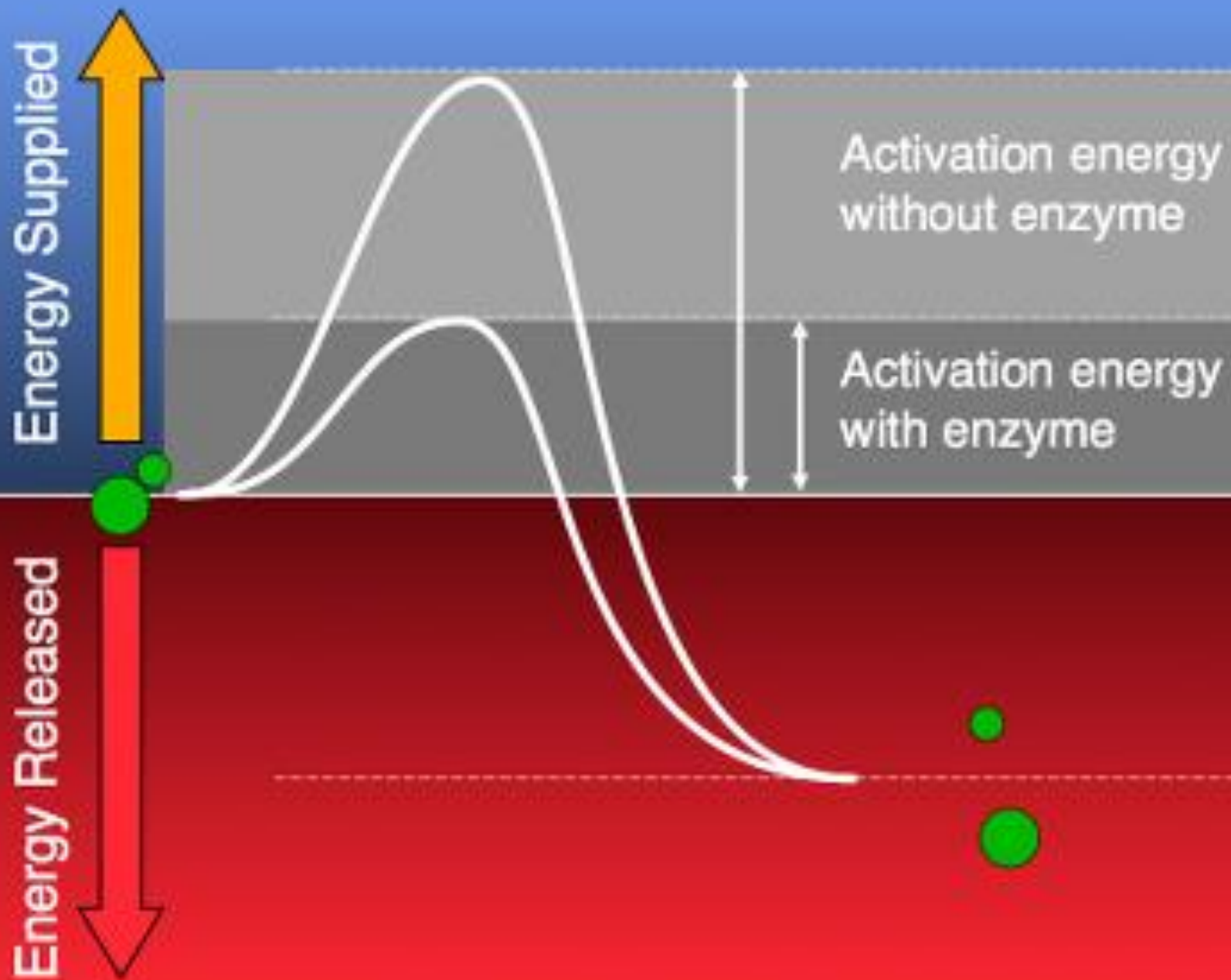


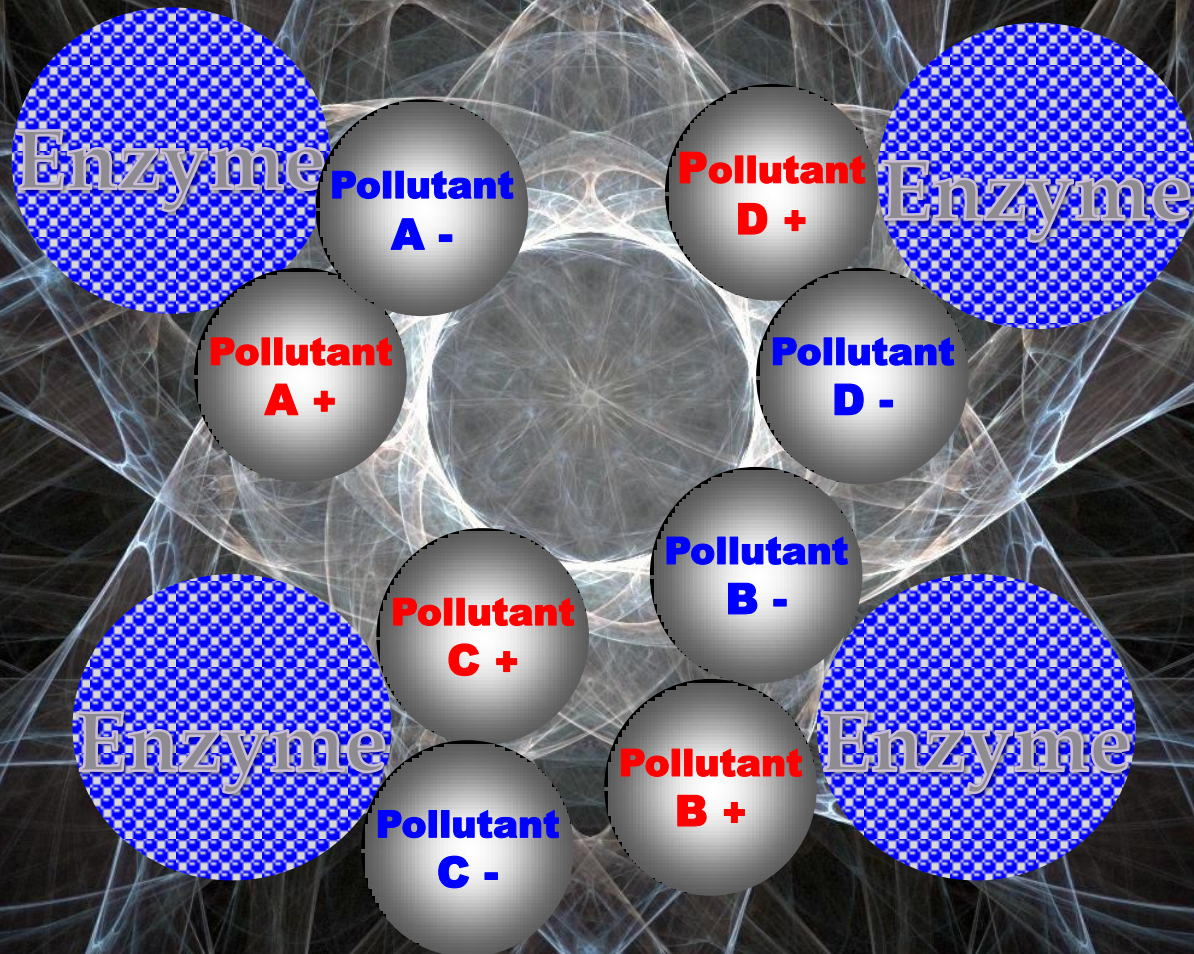


illustration of

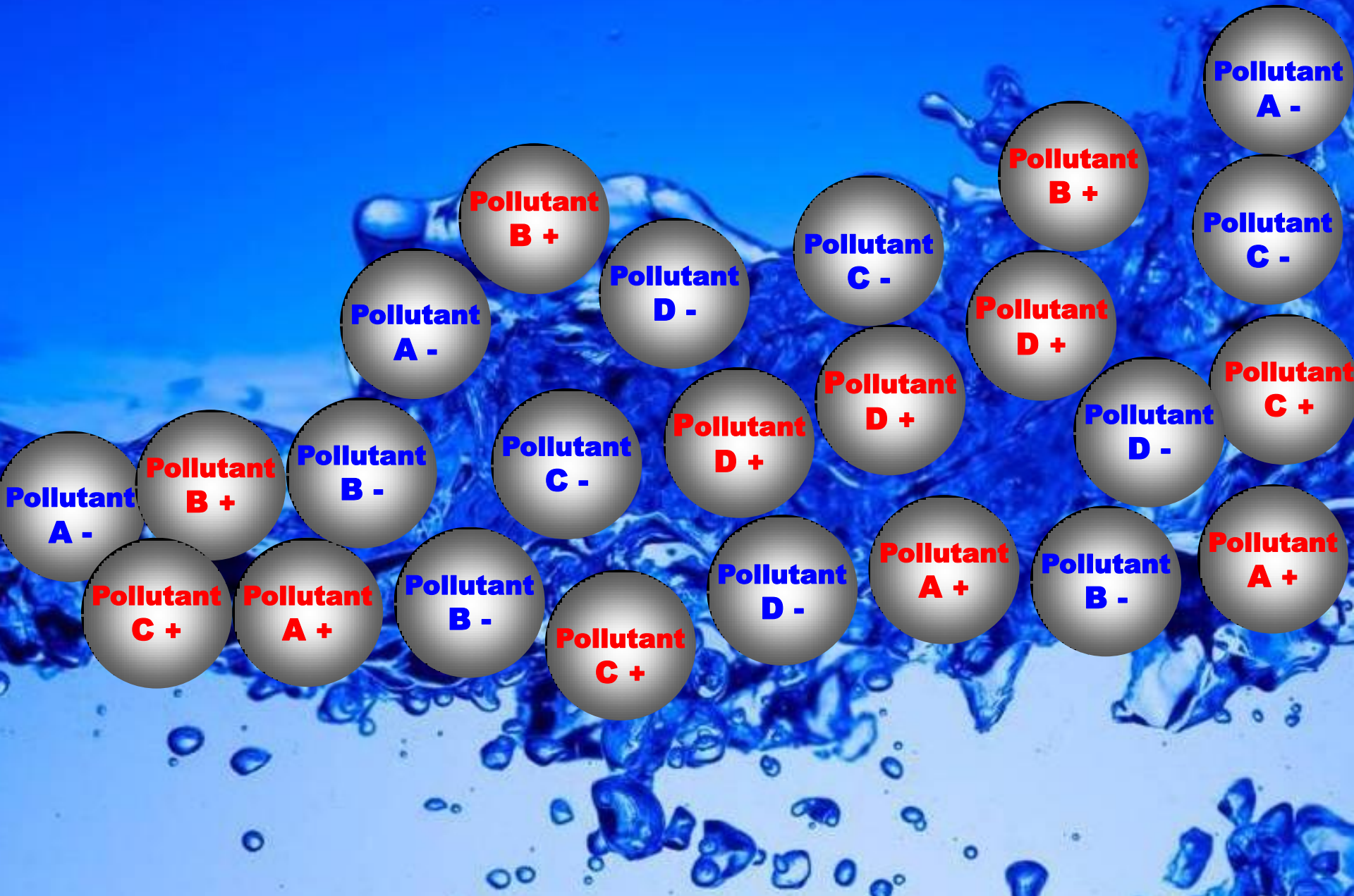
**Zero Waste Water
Purification Process**

Step three

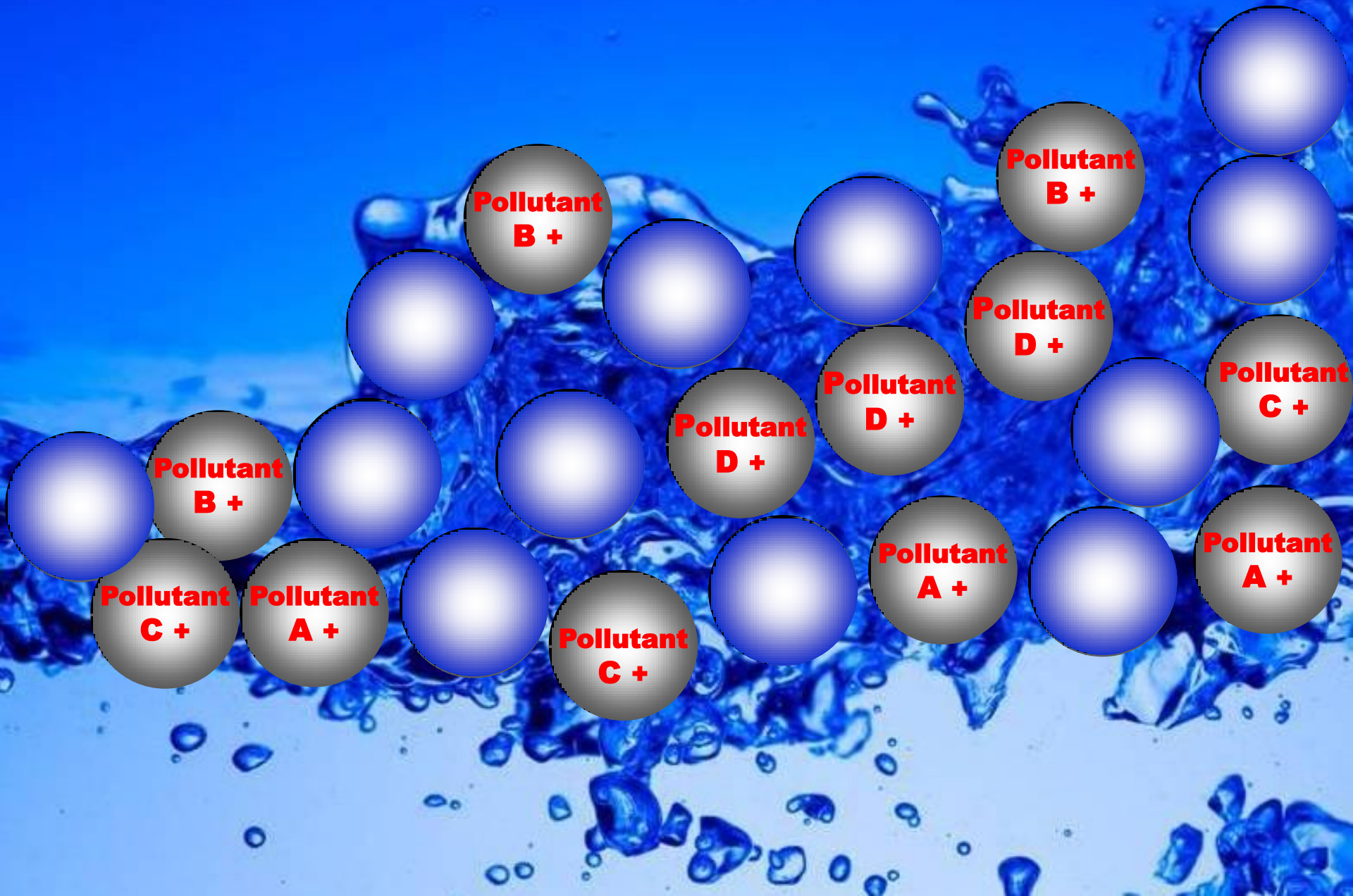
Enzyme separates detached atoms



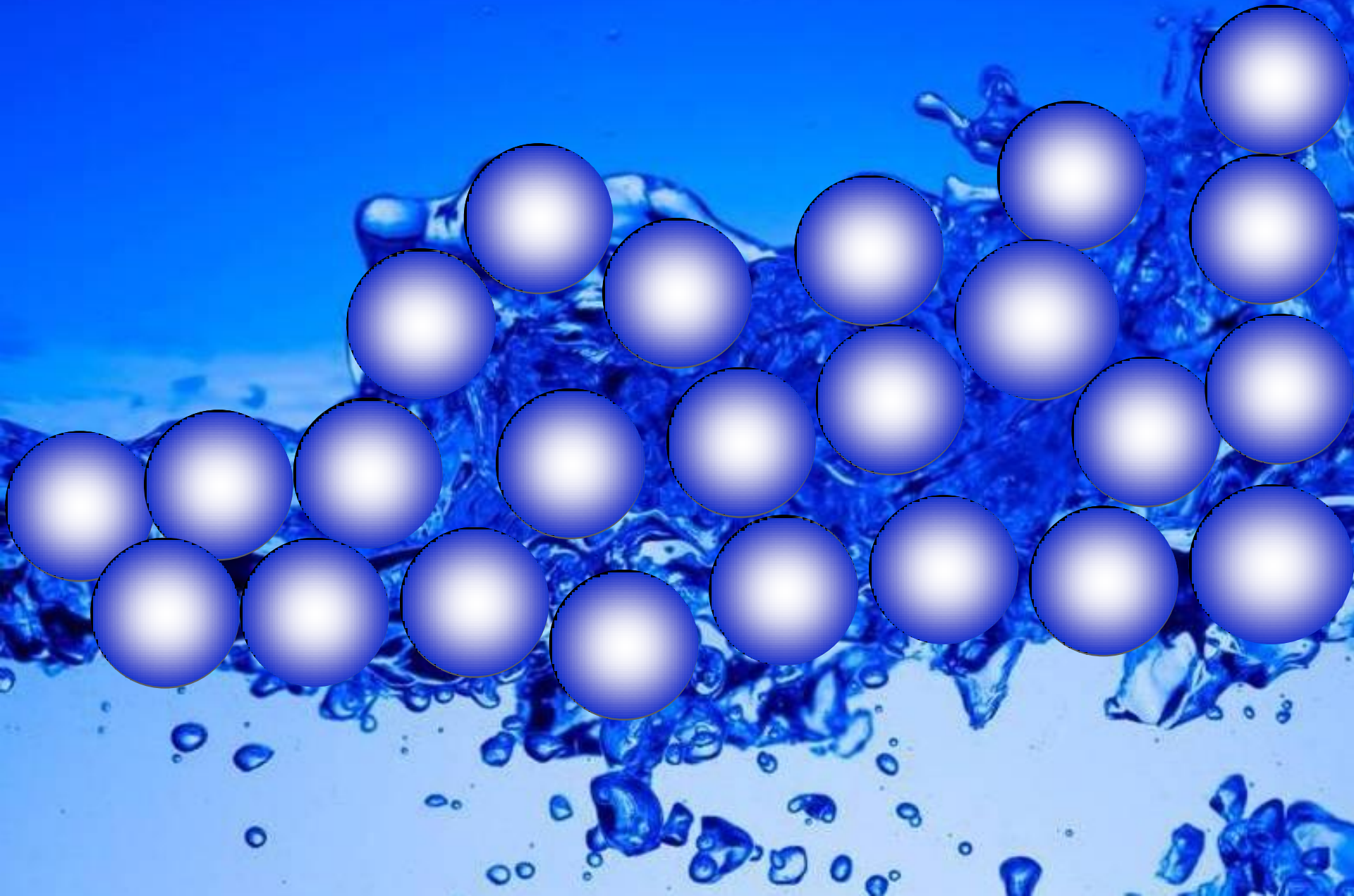
Optimization of ionized process



Negative Ions Purification Process



Positive Ions Purification Process



Save to drink
Pure Water





thank you