

## H) Abiotic transformations

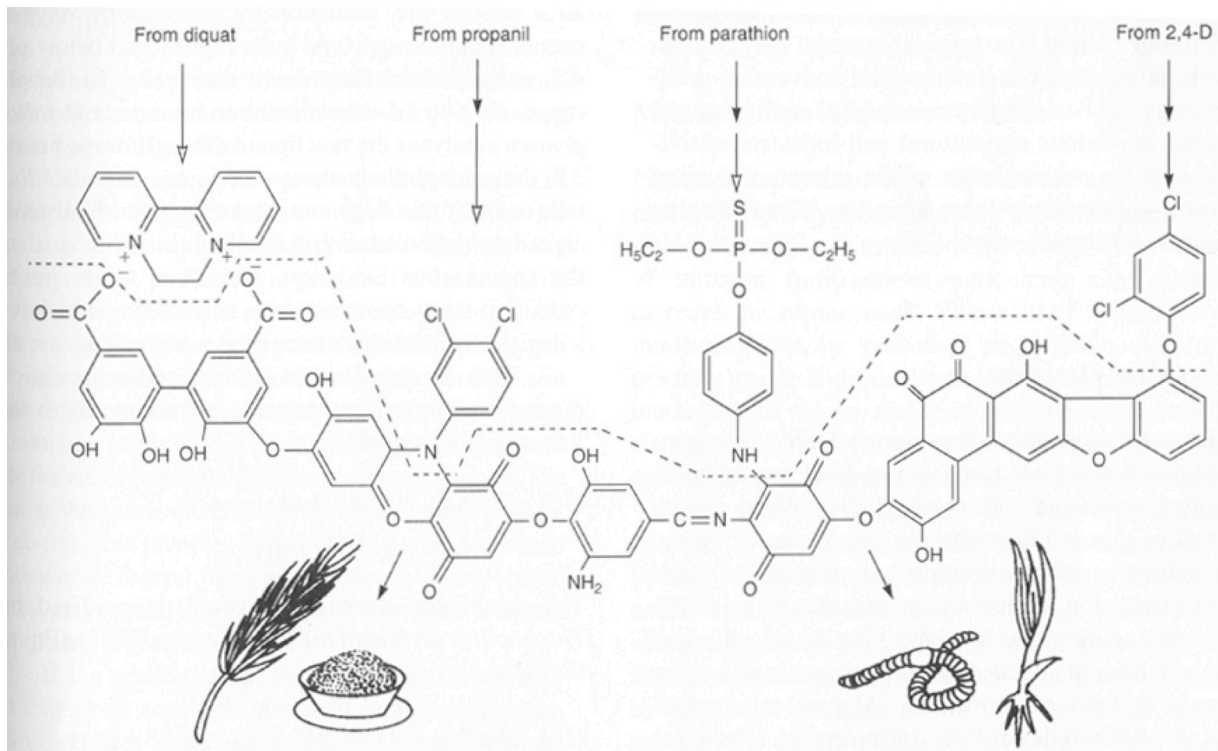
1) Chemical oxidation (similar to biologically-catalyzed rxns)

2) Humic acid incorporation

Ionic bonding (weak)

H-bonding (weak)

Covalent bonding (strong)



When is a contaminant no longer a contaminant?

### 3) Photodegradation

Molecule has to absorb light between 290 and 800 nm.

Two types:

i) Direct photodegradation

uv →

ii) Indirect photodegradation

uv → →

#### 4) Chemical transformation

Clays and pesticides

Mn oxides and As(III) to As(V)