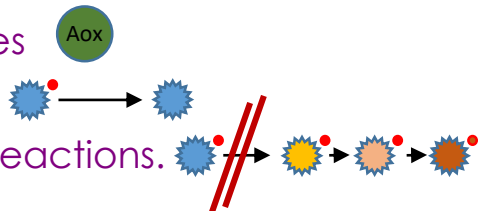


# AP

## Antioxidant Power

- ❑ Measures the antioxidative capacity and reactivity of raw materials and final products.
- ❑ ESR (Electron Spin Resonance) spectroscopy specifically quantifies the amount of free radicals (FR)
- ❑ The resulting AP value illustrates the antioxidant power of an active
- ❑ Standardized to ascorbic acid (vit. C). Choice of actives, control of the long term stability, optimization of proceeding/ storing.
- ❑ The information can be useful for choice of actives, control of the long term stability, optimization of proceeding / storing.

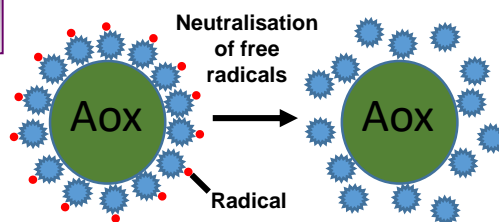
### Antioxidants

- ❑ heterogeneous class of molecules
  - ❑ able to neutralize free radicals
  - ❑ able to terminate radical chain reactions.
- 

### Antioxidant Power is characterized by:

**capacity  $w_c$**

Amount of actives which can be neutralized



**reactivity  $t_r$**

Neutralization time

#### Test Products:

- raw materials (for cosmetic, pharmaceutical, or nutritional industry)
- final products (food, nutritional supplement, cosmetics, pharmaceuticals)

#### Principle:

ESR spin probing technique *in tubo*.

#### Conditions:

Measurements performed at RT.  
 Magnetech Miniscope ESR 300 ESR spectrometer  
 Kinetic measurements 0-40 min.  
 3-4 concentrations  
 Solvent: ethanol /water (50/50 w/w)  
 Standardization: ascorbic acid

#### Long term stability:

solubilized products are stored at 40°C and the AP values are determined after 24 h and 48 h.

Patent: DE102005026133B4