

# Size and shape of colloids:

Particles lying in the colloidal size have **large surface area** when compared with the surface area of an equal volume of larger particles.

**Specific surface:** the surface area per unit weight or volume of material.

The importance of large specific surface results in:

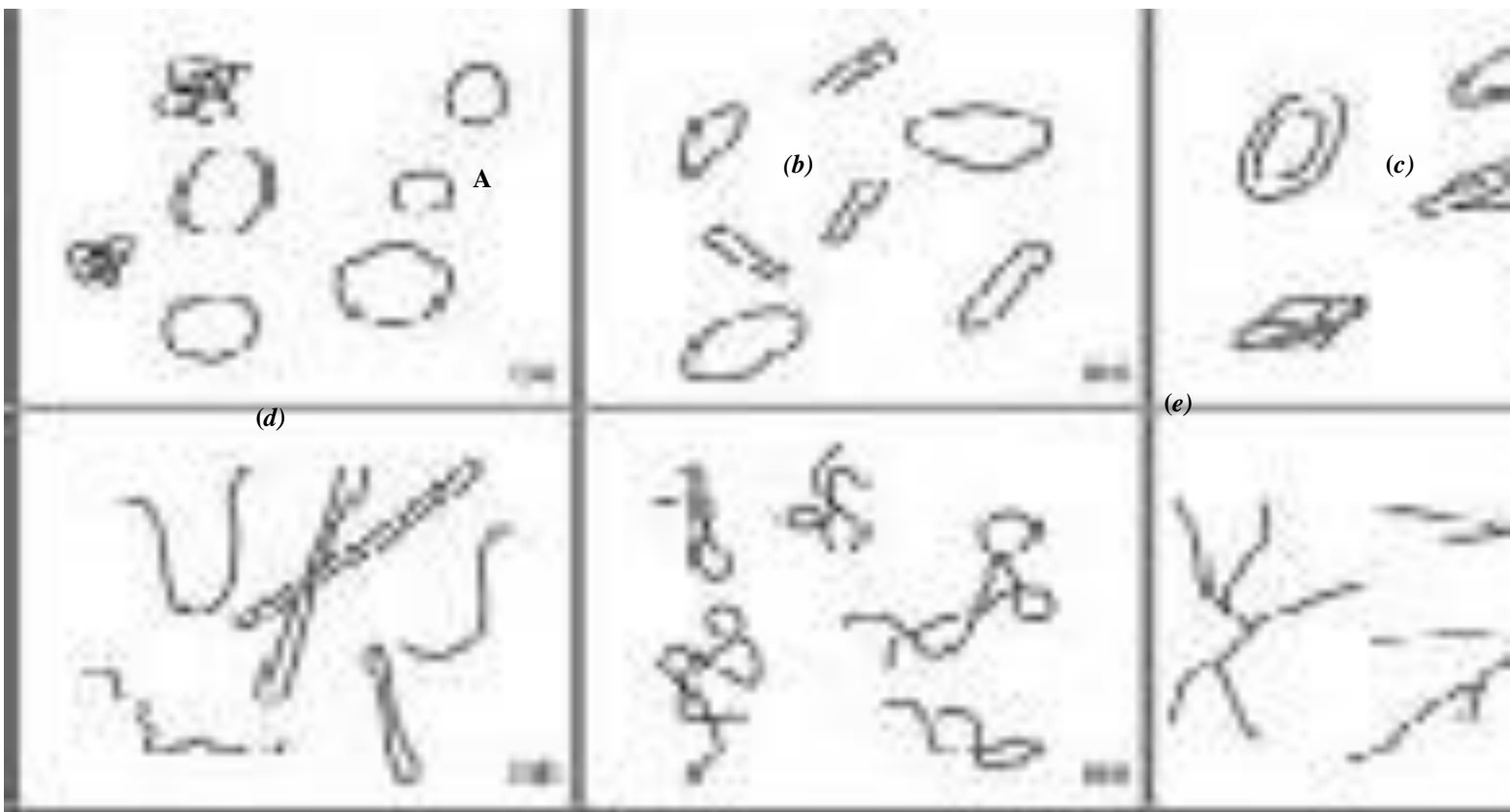
- 1- **platinum** is effective as catalyst only when found in colloidal form due to large surface area which adsorb reactant on their surface.
- 2- The colour of colloidal dispersion is related to the size of the particles  
e.g. red gold sol takes a blue colour when the particles increase in size

**-The shape of colloidal particles in dispersion is important:**

**The more extended the particle the greater its specific surface → the greater the attractive force between the particles of the dispersed phase and the dispersion medium.**

**→ Flow, sedimentation and osmotic pressure of the colloidal system affected by the shape of colloidal particles.**

Particle shape may also influence the pharmacologic action.



Some shapes that can be assumed by colloidal particles:

- (a)** *spheres and globules,* **(b)** *short rods,*  
**(c)** *Oblate ellipsoids and flakes,* **(d)** *long rods and threads,*  
**(e)** *loosely coiled threads, and (f) branched threads.*