**Surfactant micelles**

Surfactants are substances that create self-assembled molecular clusters called micelles in a solution. When the surfactant concentration is high, they form micelles. The point at which micelles are formed is called critical micelle concentration.

**The Hummers method**

Graphite oxide is synthesized through the reaction of graphite powder with potassium permanganate in a concentrated sulfuric acid solution.

**SETTLE Algorithm**

SETTLE algorithm is used for resetting the positions and velocities to satisfy the holonomic constraints on the rigid water model. This method is based on the Cartesian coordinate system and can be used in place of SHAKE and RATTLE.

**LINCS algorithm**

LINCS is an algorithm that resets bonds to their correct lengths after an unconstrained update. The method is non-iterative, as it always uses two steps. Although LINCS is based on matrices, no matrix-matrix multiplications are needed. The method is more stable and faster than SHAKE, but it can only be used with bond constraints and isolated angle constraints.

**Exfoliation**

The complete separation of the layers of a material.

**Colloidal stability**

The stability of a colloidal system is defined by particles remaining suspended in solution and depends on the interaction forces between the particles. These include electrostatic interactions and van der Waals forces, because they both contribute to the overall free energy of the system.

A colloid is stable if the interaction energy due to attractive forces between the colloidal particles is less than kT, where k is the Boltzmann constant and T is the absolute temperature. If this is the case, then the colloidal particles will repel or only weakly attract each other, and the substance will remain a suspension.

If the interaction energy is greater than kT, the attractive forces will prevail, and the colloidal particles will begin to clump together. This process is referred to generally as aggregation, but is also referred to as flocculation, coagulation or precipitation.