12- The process, as set forth in any of claims 1 to 10, wherein it includes the step of adding, to the fifth aqueous solution, defined in step "f" of claim 1, a capping agent, in the concentration from 1.0 millimolar to 1.0 molar, selected from shellac, PVP, a cationic surfactant as the cetyltrimethyl ammonium bromide (CTAB) and anyone from the family of the tertiary amines, so as to make the nanoparticles become hydrophilic.

13- The process, as set forth in any of claims 1 to 10, wherein it includes the steps of:

- redispersing, in water, the dry nanoparticles obtained in step "i" of claim 1;

adding, to the aqueous dispersion of dry nanoparticles, a capping agent, in the concentration from 1.0 millimolar to 1.0 molar, selected from shellac,~~,~~ PVP, a cationic surfactant as the cetyltrimethyl ammonium bromide (CTAB) , and anyone from the family of the tertiary amines;

- submitting the aqueous dispersion of dry nanoparticles and the capping agent to a thermal treatment in their boiling temperature, in a reflux apparatus, for a time interval from 1.0 h to 4.0 h, so as to make the nanoparticles become hydrophilic; and

- conducting the hydrophilic nanoparticles to any of the steps of: dispersing them directly in an aqueous base, to form an aqueous lubricant composition; and drying them to be stored for future use.

~~14- A lubricant dispersion stable in lubricant oil, wherein it comprises from 0.01% to 5%, by total weight of the composition, of lipophilic nanoparticles obtained by the process defined in claim 11, dispersed in lubricant oil.~~

~~15- A lubricant dispersion stable in water, wherein it comprises from 0.05% to 5%, by total weight of the composition, of hydrophilic nanoparticles obtained by the process defined in any~~

of claims 12 or 13, dispersed in water.