CLAIMS

1- A process for preparing a core-shell microcapsule slurry, said process comprising the steps of:

a) dispersing an oil phase comprising a hydrophobic material, preferably a flavor or a perfume, into an aqueous phase comprising a globular protein to form an oil-in-water emulsion;

b) adding an aqueous solution comprising a polysaccharide into the oil-in-water emulsion; and

c) applying sufficient condition to induce the denaturation of the protein to form core-shell microcapsule in the form of a slurry,

characterized by the fact that the mean oil droplet size in the oil-in-water emulsion is greater than 10 microns.

2- The process according to claim 1, characterized by the fact that the globular protein is chosen in the group consisting of whey protein, beta-lactoglobulin, ovalbumine, bovine serum albumin, vegetable protein, and mixtures thereof.

3- The process according to claim 1 or claim 2, characterized by the fact that the polysaccharide is chosen in the group consisting of pectin, carrageenans, alginate, and mixtures thereof.

4- The process according to any one of the preceding claims, characterized by the fact that the protein is whey protein and the polysaccharide is pectin, preferably high methoxy pectin.

5- The process according to any one of the preceding claims, characterized by the fact that the denaturation of the protein in step c) is induced by a heating step.

6- The process according to claim 5, characterized by the fact that the heating step is carried out at a temperature T_{den} comprised between between 50 and 100°C, preferably between 80 and 100°C.

7- The process according to any one of the preceding claims, characterized by the fact that the weight ratio between the oil phase and the protein is comprised between 1 and 10.

8- The process according to any one of the preceding claims, characterized by the fact that the weight ratio between the protein and the polysaccharide is comprised between 1 and 10.

9- The process according to any one of the preceding claims, characterized by the fact that a calcium solution is further added in the emulsion obtained in step a) and/ or in the mixture obtained in step b).

10- The process according to any one of the preceding claims, characterized by the fact that a crosslinker, preferably chosen in the group consisting of transglutaminase, glutaraldehyde, genipin, and mixtures thereof is added in the mixture obtained in step b) and/or in the mixture obtained in step c).

11- The process according to any one of the preceding claims, characterized by the fact that:
- a polyfunctional monomer is further dissolved in the oil phase in step a), and
- the process comprises a further step before step c) consisting of applying conditions sufficient to induce interfacial polymerization of the polyfunctional monomer.

12- A microcapsule slurry comprising at least one microcapsule made of:
- an oil-based core comprising a hydrophobic material, and
- at least one shell comprising a protein and a polysaccharide, wherein the protein is preferably whey protein and wherein the polysaccharide is preferably pectin,

wherein the microcapsule has a mean size greater than 10 microns.

13- The microcapsule slurry according to claim 12, wherein the microcapsules are made of:

- an oil-based core comprising a hydrophobic material
- an inner shell made of a polymerized polyisocyanate having at least two isocyanate functional groups and an outer shell comprising whey protein and pectin.

14- A composition comprising microcapsules as defined in claim 12 or claim 13, wherein the composition is in the form of a perfumed product, preferably chosen in the group consisting of body care products, laundry care products or in the form of a flavored product, preferably chosen in the group consisting of snacks, dairy products, bakery products, confectionary.