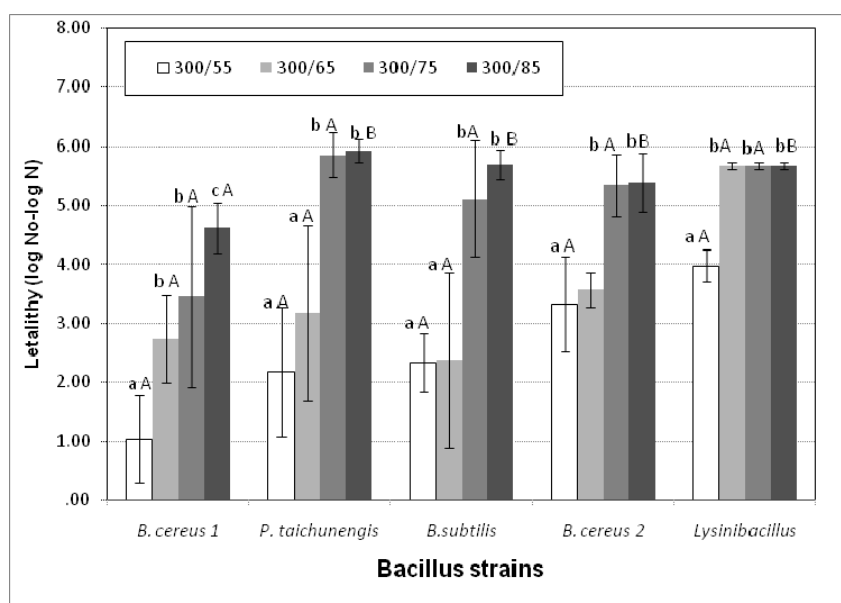


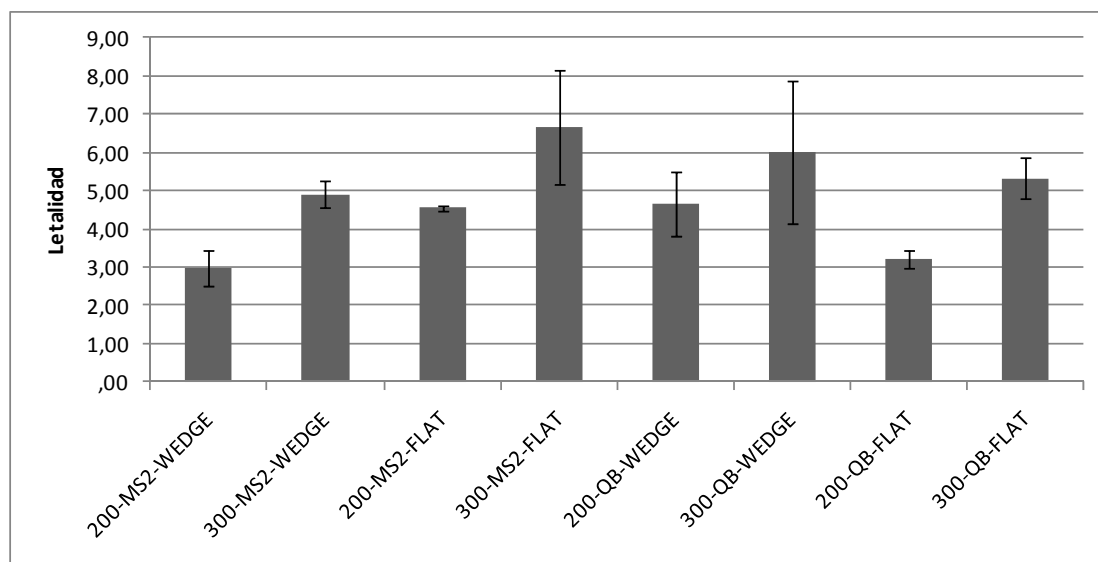
## ANNEX I

### FIGURES OF FINAL REPORT

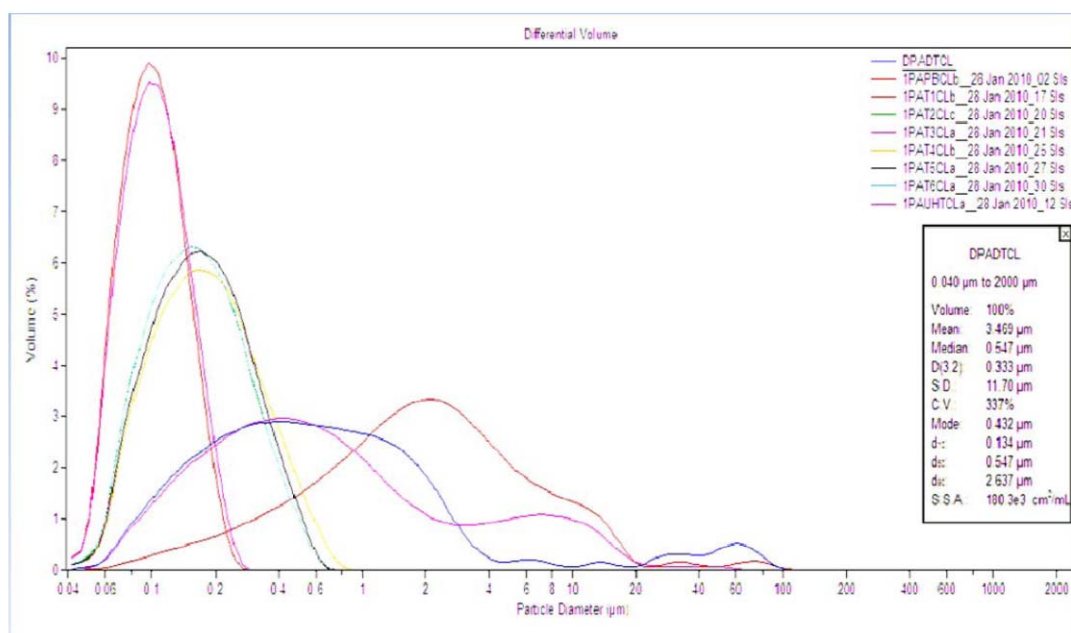
**Fig. 1** Letality of UHPH on *Bacillus cereus* 1, *P. taichunensis*, *B. cereus* 2 and *Lysinibacillus* spp. spores. Values represent mean  $\pm$  standard deviation. For each *Bacillus* strain, bar means with different letters (a, b, c) differ ( $P < 0.05$ ). For each inlet temperature, bar means with different letters (A, B) differ ( $P < 0.05$ ).



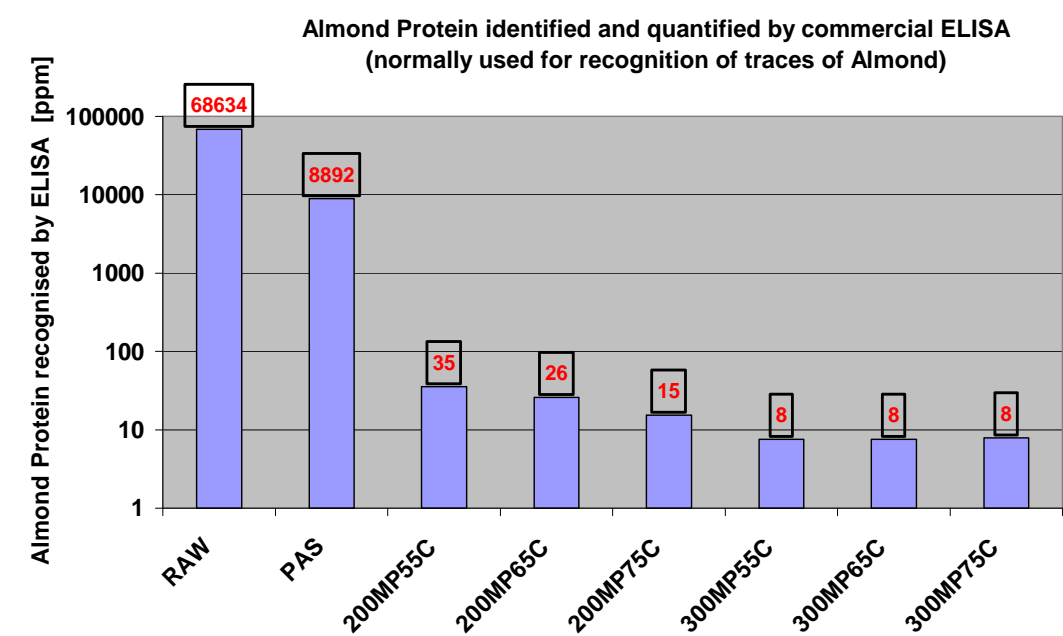
**Figure 2.** Lethal effect of UHPH treatments (200 and 300 MPa) on MS2 and Q $\beta$  bacteriophages



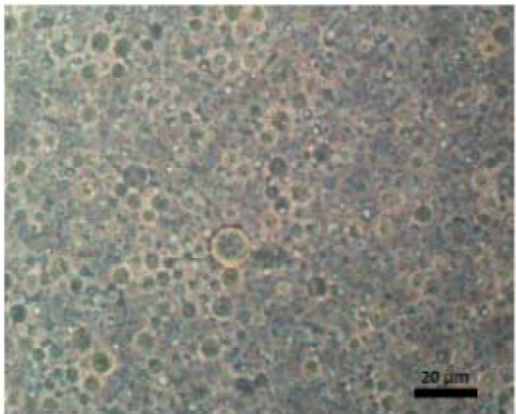
**Fig 3.** Particle size of almond milk with lecithine



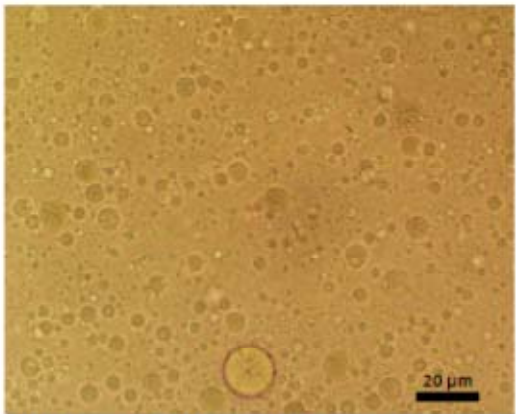
**Fig 4.** Typical result for UHPH almond milk samples from UAB confirming the findings of MRI with samples produced and treated at MRI (pas=pasteurized; e.g. 300MP75C means 300 MPa at 75 °C inlet).



**Fig 5.** Optical microscopy of double emulsions



**Fig. 4** - Double Emulsion: Standard emulsion prepared according to NAHO formulation. Emulsion prepared by a one-step procedure. Olympus BH-2.



**Fig. 5** - Double Emulsion: Standard emulsion prepared according to NAHO formulation. Emulsion prepared by a one-step procedure. Olympus BH-2. Direct light.

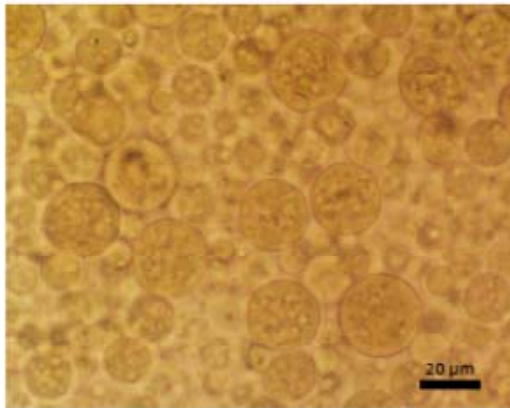


Fig. 11 - E2 - Double emulsions prepared using starch as thickener. Emulsions prepared Two-step double emulsion. Olympus BH-2. Direct Light.

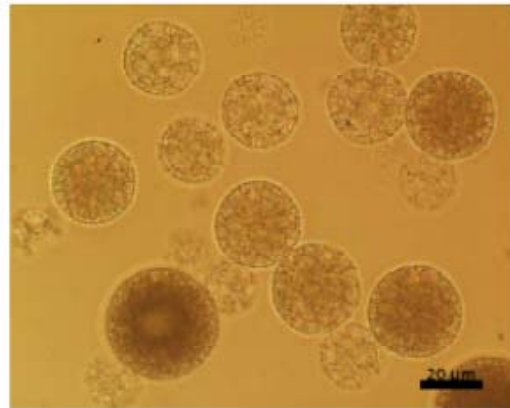


Fig. 12 - E2. W/O/W emulsion prepared with milk protein isolate. Olympus BH-2. Direct Light.

**Figure 6.** Stability of the nanodispersions evaluated using a Turbiscan Lab. Phosphate buffer with Casein (2,5%) and  $\beta$ -Carotene (0,01%). (A) Control (0 MPa) and (B) 300 MPa.



**Figure 7.** Z-potential distribution of the nanoparticles measured. Different compositions are represented: Phosphate buffer with Casein (2,5%); Phosphate buffer with  $\beta$ -Carotene (0,01%); Phosphate buffer with Casein (2,5%) and  $\beta$ -Carotene (0,01%).

