

## STUDY ON THE EFFECT OF SOL-GEL PARAMETERS ON THE SIZE AND MORPHOLOGY OF SILICA MICROCAPSULES CONTAINING DIFFERENT ORGANIC COMPOUNDS

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Microcapsules can be considered as small containers filled of active compounds that depending on the final application can contain a very wide range of different materials.

In the last years the importance of silica microcapsules has grown considerably due to their great chemical resistance, thermal stability, biocompatibility and environmental-friendliness.<sup>1</sup>

Silica microcapsules with diameters in the range of nano, micro, and in some cases almost in the millimetre scale containing different organic compounds have been synthesized combining the sol-gel chemistry with the oil in water microemulsion technology.<sup>2</sup>

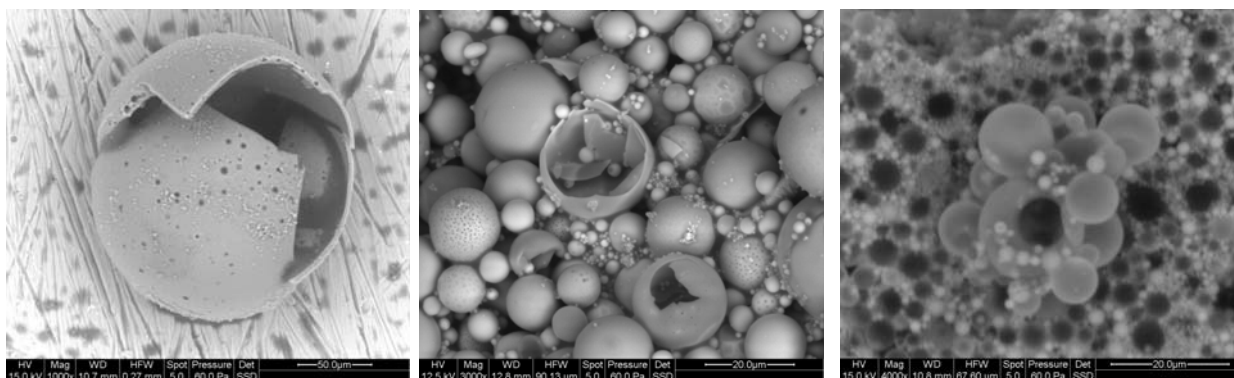
In the current study we have observed that variations in the pH of the reaction during the hydrolysis step, modifications in the silica/water ratio, or even the nature of the encapsulated organic compound, have dramatic effects in the type of shell obtained, the morphology and also in the particle size distribution.

### References:

[1] C. J. Barbé, L. Kong, K.S. Finnie, S. Calleja, J.V. Hannah, E. Drabarek, D.T.Cassidy, M.G. Blackford, J. Sol-Gel Sci. Technol., **46** (2008) 393-409.

[2] B.Y. Ahn, S.I. Seok, I.C. Baek, S.I. Hong, Chem. Commun., **2** (2006) 189-190 and references therein.

### Figures:



**Fig. 1** Different capsules synthesized at different pH. The first image corresponds to a synthesis carried out at a pH of 2.2, the second one at pH 3.2 and the last one at pH 4.2.