

## Supporting Information for:

# INFLUENCE OF THE $Mn^{2+}$ CONCENTRATION ON Mn-DOPED $ZnS$ QUANTUM DOTS SYNTHESIS: EVALUATION OF THE STRUCTURAL AND PHOTOLUMINESCENT PROPERTIES

Emma Sotelo-Gonzalez, Laura Rocas, Santiago Garcia-Granda, Maria T. Fernandez-  
Arguelles, Jose M. Costa-Fernandez<sup>(\*)</sup> and Alfredo Sanz-Medel<sup>(\*)</sup>

*Department of Physical and Analytical Chemistry, University of Oviedo*  
Avda. Julian Claveria 8, E-33006, Oviedo, Spain

## Supplementary figures

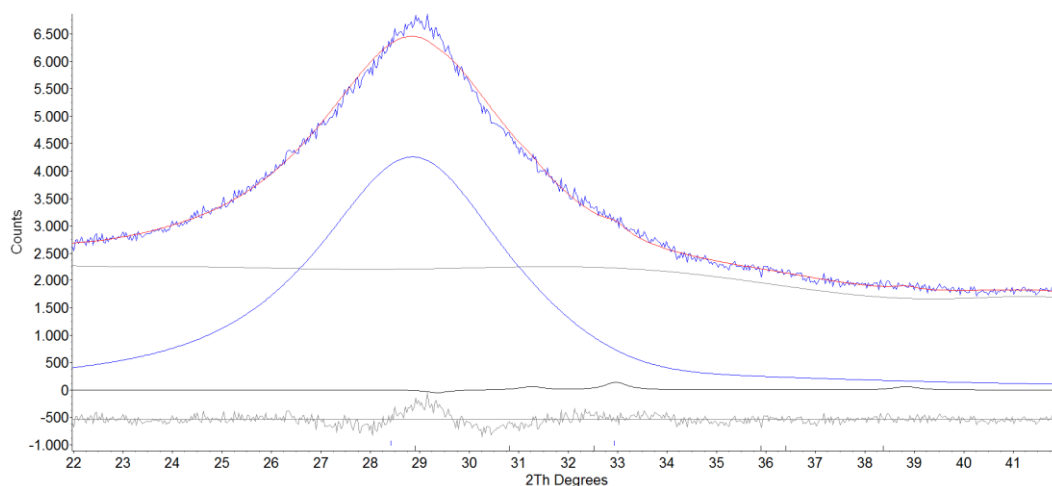


Figure S1. Rietveld refinement plot for sample synthesized using 1 % of dopant manganese.

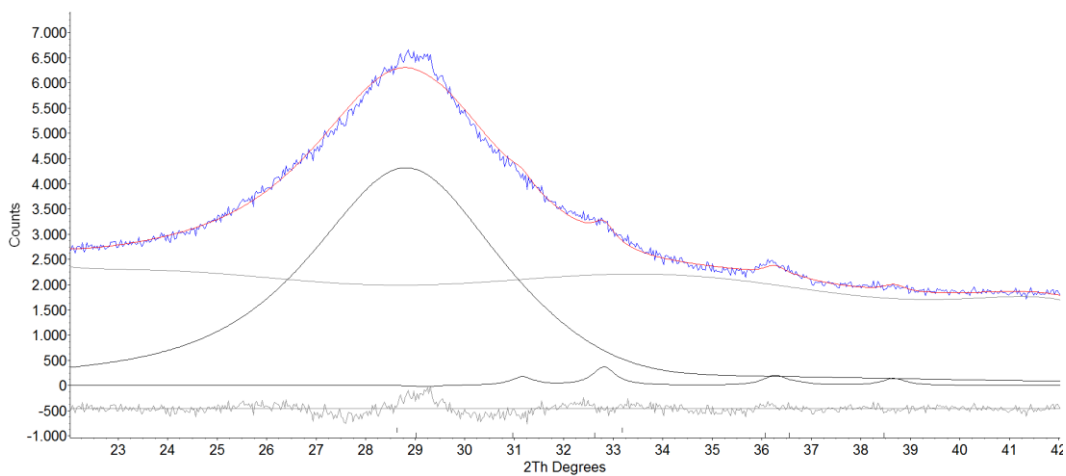


Figure S2. Rietveld refinement plot for sample synthesized using 3 % of dopant manganese.

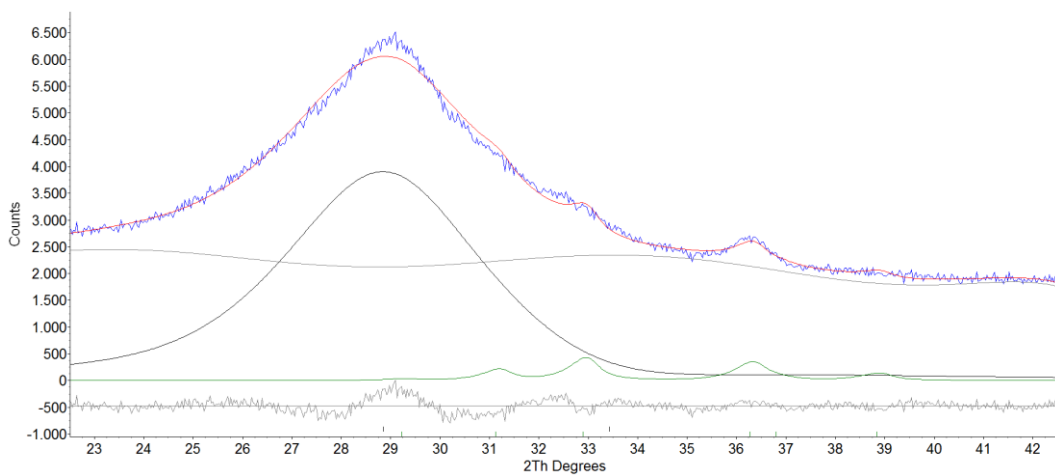


Figure S3. Rietveld refinement plot for sample synthesized using 5 % of dopant manganese.

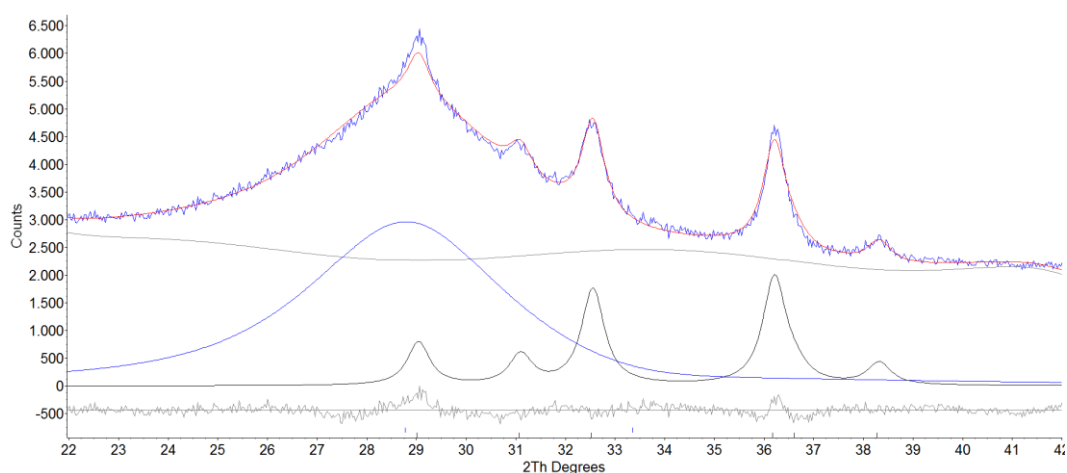


Figure S4. Rietveld refinement plot for sample synthesized using 10 % of dopant manganese.

## Supplementary table

Table S1. Rietveld refinement details for samples synthesized using 0, 1, 3, 5 and 10 at. % of dopant manganese (parameters as defined in Topas, Bruker AXS, Karlsruhe, Germany).

| Sample                     | 0 % Mn | 1 % Mn | 3 % Mn | 5 % Mn | 10 % Mn |
|----------------------------|--------|--------|--------|--------|---------|
| <b>R<sub>exp</sub> (%)</b> | 2.03   | 1.72   | 1.73   | 1.73   | 1.69    |
| <b>R<sub>p</sub> (%)</b>   | 7.83   | 2.03   | 2.12   | 2.42   | 1.90    |
| <b>R<sub>wp</sub> (%)</b>  | 10.16  | 2.50   | 2.60   | 2.93   | 2.39    |
| <b>GOF</b>                 | 5.00   | 1.45   | 1.50   | 1.70   | 1.42    |
| <b>R-Bragg blende</b>      | 2.701  | 0.078  | 0.106  | 0.130  | 0.083   |
| <b>R-Bragg hetaerolite</b> | --     | 1.286  | 0.917  | 0.852  | 0.575   |