

**ADVANCED
HEALTHCARE
MATERIALS**

Supporting Information

for *Adv. Healthcare Mater.*, DOI: 10.1002/adhm.202001692

A graded, porous composite of natural biopolymers and octacalcium phosphate guides osteochondral differentiation of stem cells

Elisabeth Amann, Amisel Amirall, Albina R. Franco, Patrina S. P. Poh, Francisco J. Sola Dueñas, Gastón Fuentes Estévez, Isabel B. Leonor, Rui L. Reis, Martijn van Griensven, and Elizabeth R. Balmayor^{*}

Supporting Information

A graded, porous composite of natural biopolymers and octacalcium phosphate guides osteochondral differentiation of stem cells

Elisabeth Amann, Amisel Amirall, Albina R. Franco, Patrina S. P. Poh, Francisco J. Sola Dueñas, Gastón Fuentes Estévez, Isabel B. Leonor, Rui L. Reis, Martijn van Griensven, Elizabeth R. Balmayor*

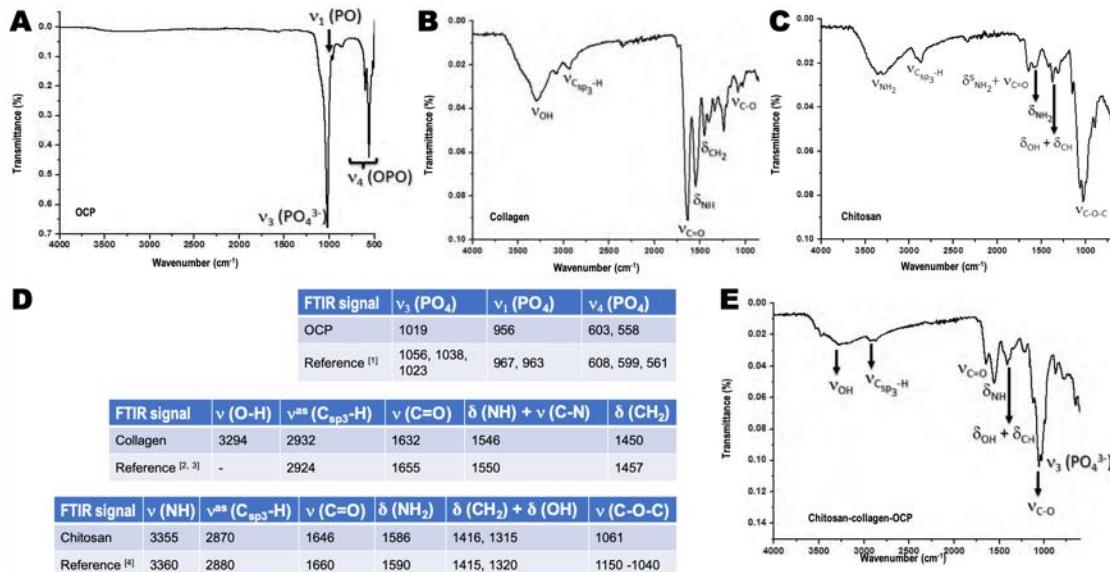


Figure S1. Characterization of the raw materials and the composite obtained by means of FTIR. Spectra of **A**) octacalcium phosphate, **B**) collagen, and **C**) chitosan raw materials are shown. **D)** Characteristic bands assigned and the corresponding literature reference. **E)** Spectrum of the chitosan-collagen-octacalcium phosphate composite.

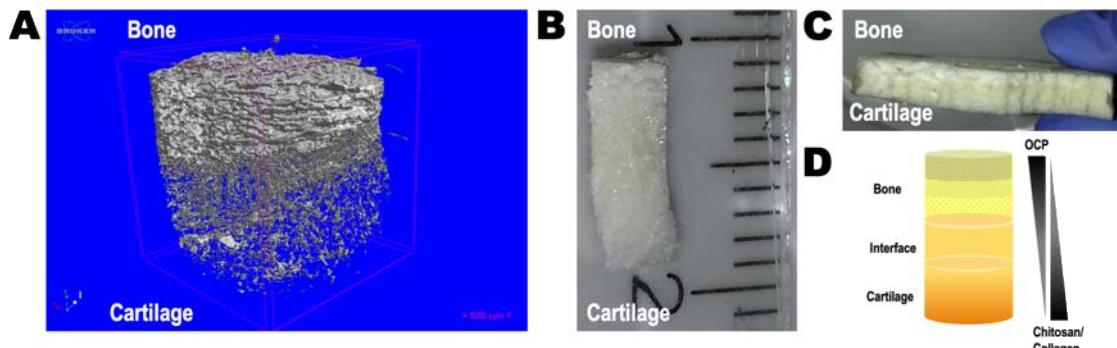


Figure S2. **A)** μCT reconstruction showing the inorganic material gradient (i.e. octacalcium phosphate) present in the scaffold. From top to bottom, bony part, interface, and cartilage zone. **B)** Image of the punched-out scaffold from a **C)** bigger fabricated one. **D)** schematic representation of the material; gradient used in the developed osteochondral scaffolds.

References on supporting information material:

- [1] O. B. Fowler, M. Markovic, W. E. Brown. *Chem Mater.* **1993**, 5, 1417.
- [2] N. P. Camacho, P. West, P. A. Torzilli, R. Mendelsohn. *Biopolymers* **2001**, 62, 1.

- [3] J. H. Muyonga, C. G. B. Cole, K. G. Duodu. *Food Chem.* **2004**, 86, 325.
- [4] A. Pawlak, M. Mucha. *Thermochim. Acta* **2003**, 396, 153.