Supplementary Information

3D printing of metal-organic framework incorporated porous scaffolds to promote osteogenic differentiation and bone regeneration

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Table 1 Primer sequences of the genes involved in this study.

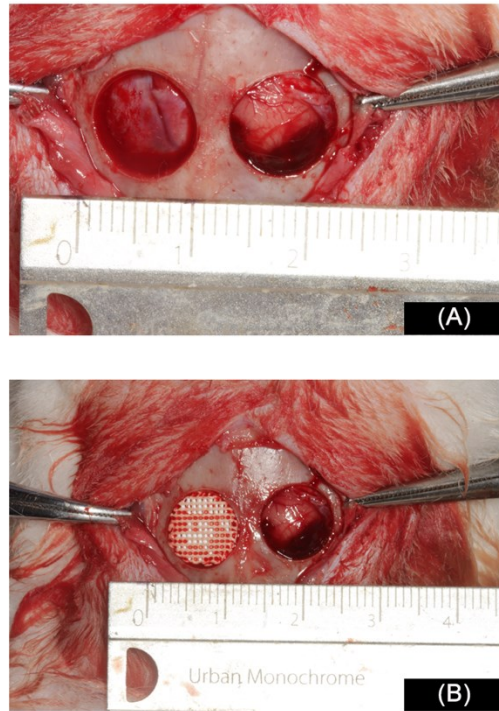| Primer	Sequence (5' to 3')
Rat-*Osx*-F	GTCCTGGCAACACTCCTACC
Rat-*Osx*-R	GGGCAAAGTCAGACGGGTAA
Rat-*ALP*-F	CAACGTGGCCAAGAACATCA
Rat-*ALP*-R	CCTGAGCGTTGGTGTTGTAC
Rat-*Ocn*-F	TTATTGTTTGAGGGGCCTGGG
Rat-*Ocn*-R	ACACAACTGCAGGTCGAGTTT
Rat-*Opn*-F	TCAAGGTCATCCCAGTTGCC
Rat-*Opn*-R	GACTCATGGCTGGTCTTCCC
Rat-*β-actin*-F	CTCTGTGTGGATTGGTGGCT
Rat-*β-actin*-R	CGCAGCTCAGTAACAGTCCG

Figure S1. Photograph of implant surgery with calvarial defect model in rabbit. (A) Critical-sized defect model preparation; (B) Scaffolds implantation.
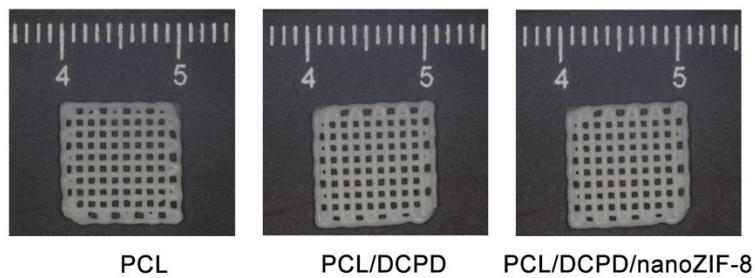

Figure S2. Macrograph images of the porous scaffolds by extrusion-based 3D printing technology.
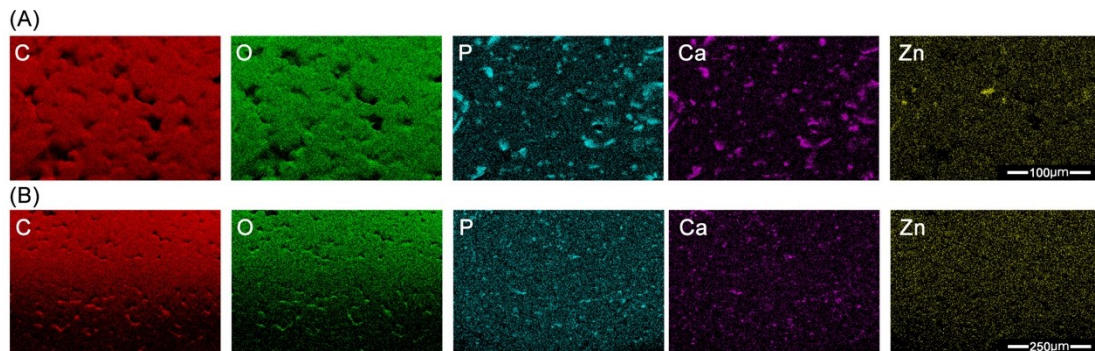

Figure S3. EDS-mapping for carbon, oxygen, phosphorus, calcium and zinc of PCL/DCPD/nanoZIF-8 porous composite scaffold before (A) and after (B) the immersion test.
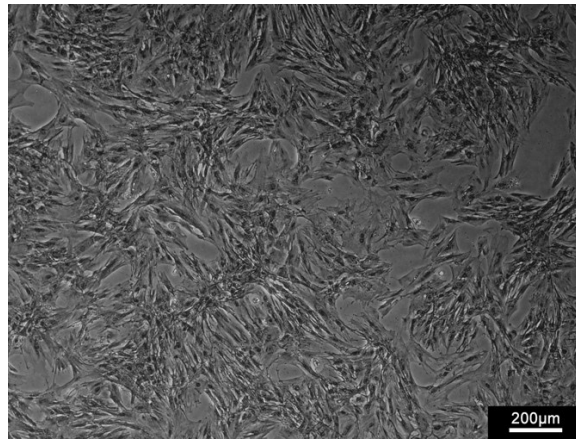
Figure S4. Representative images of BMSC observed under optical microscopy.
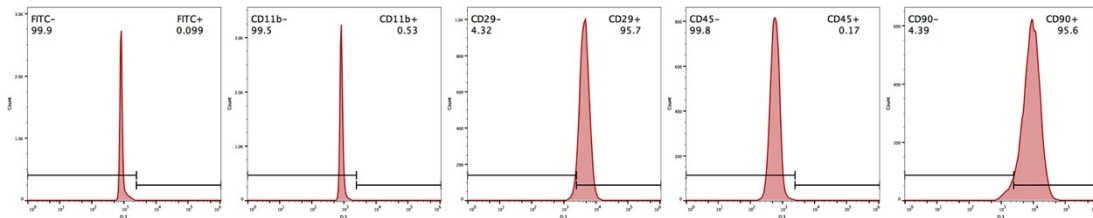

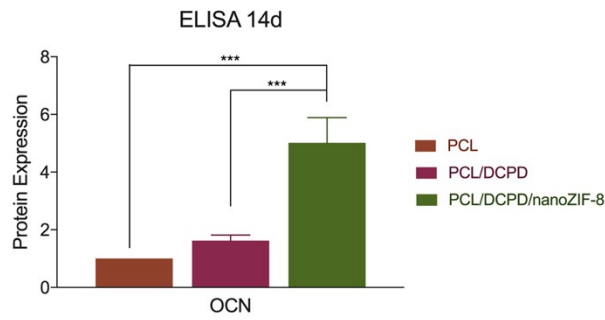Figure S5. Representative flow cytometry dot plots showing cell surface markers of BMSC.

Figure S6. Protein expression of OCN in BMSCs at day 14 using ELISA kit. Data were shown as mean ± SD, *** $p < 0.001$, (n=4).