Supplementary information

Photocurable and elastic polyurethane based on polyether glycol with adjustable hardness for 3D printing customized flatfoot orthosis

Yanyan Zhao, ‡ ^a Jing Zhong, ‡ ^b Yilin Wang, ^a Qiwei Chen, ^a Junfeiyang Yin, ^a Jiejie Wang, ^a Hong Zhao, ^c Yanbing Li, ^a Haihuan Gong^{*a, d} and Wenhua Huang ^{*a, c}

^{a.} Guangdong Engineering Research Center for Translation of Medical 3D Printing Application, Guangdong Provincial Key Laboratory of Digital Medicine and Biomechanics, National Key Discipline of Human Anatomy, School of Basic Medical Sciences, Southern Medical University, Guangzhou, 510515,

China

^{b.} Dermatology Hospital, Southern Medical University, Guangzhou, 510091, China

^{c.} Guangdong Medical University, Zhanjiang, 524001, China

^{d.} Department of Stomatology, Affiliated Hospital of Guangdong Medical University, Guangdong medical university, Zhanjiang, 524000, China

‡These authors contributed to this work equally.

* Corresponding authors

E-mail: gonghaihuan2013@163.com (H, Gong); orthobiomech@163.com (W. Huang)





Fig. S1 Rheological test results of DL1000-PUA and DL2000-PUA.



Fig. S2 The digital photographs of the compressive process.



Fig. S3 The digital photographs of the specimen during (a) and after (b) 100 cycles of compressive testing.



Fig. S4 In vivo biocompatibility. (a) The process of subcutaneous implantation test; (b) the HE stain results of surrounding tissue at the third week in $4 \times$ and $20 \times$, (c) the HE stain results of surrounding tissue at the sixth week in $4 \times$ and $20 \times$. (The red line represents fibrous capsules)



Fig. S5 Immunohistochemical staining of inflflammatory markers (TNF- α and IL-6) in tissues

surrounding the materials.