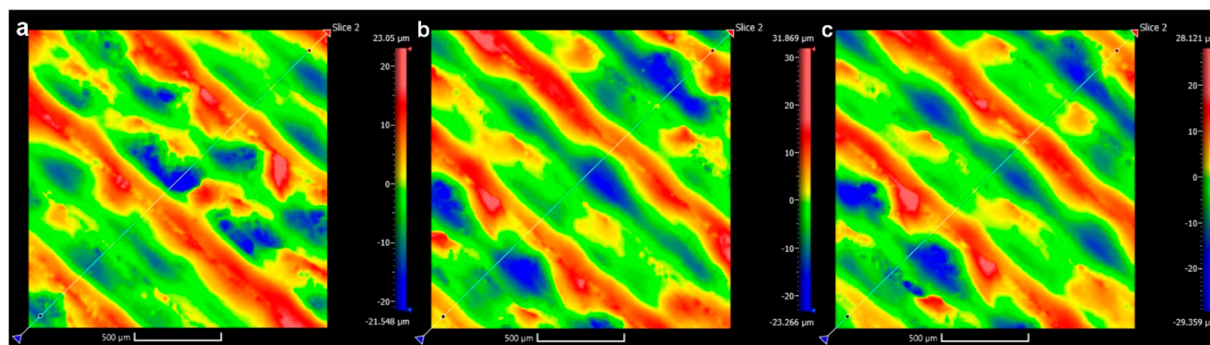


## Supporting Information

### Fused Deposition Modeling of Chemically-Resistant Microfluidic Chips in Polyvinylidene Fluoride

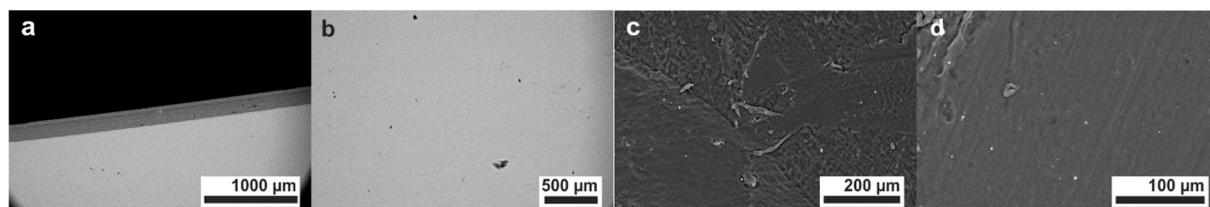
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The surface roughness  $R_a$  and  $S_q$  were measured and calculated using WLI and Gwyddion at three positions on an area of  $1.6 \times 1.6 \text{ mm}^2$ . The three WLI measurements can be seen in Fig. S1. The values calculated in Gwyddion of the surface roughness  $S_q$  were  $3.85 \text{ }\mu\text{m}$ ,  $3.85 \text{ }\mu\text{m}$  and  $3.95 \text{ }\mu\text{m}$ , which is expected due to the laminate structure of the FDM printed parts. When measured parallel to the writing direction between the laminates, the values of the mean line roughness  $R_a$  were  $0.146 \text{ }\mu\text{m}$ ,  $0.175 \text{ }\mu\text{m}$  and  $0.148 \text{ }\mu\text{m}$ .



**Figure S1:** Roughness measurements of 3D printed PVDF. (a-c) The WLI measurement was conducted at three positions and the roughness was analyzed with Gwyddion to be (a)  $R_a = 0.146 \text{ }\mu\text{m}$  and  $S_q = 3.85 \text{ }\mu\text{m}$ , (b)  $R_a = 0.175 \text{ }\mu\text{m}$  and  $S_q = 3.85 \text{ }\mu\text{m}$  and (c)  $R_a = 0.148 \text{ }\mu\text{m}$  and  $S_q = 3.95 \text{ }\mu\text{m}$ .

Scanning electron microscopy was used to analyze the porosity of the 3D printed PVDF. SEM images were taken from the top (Fig. S2a-c) and side view after cutting a sample (Fig. S2d). Surface and bulk images show neither air inclusions, nor micropores in the 3D printed material.



**Figure S2:** Scanning electron microscopy of 3D printed PVDF. (a-c) SEM pictures of the top surface of 3D printed PVDF. (d) Sideview on a cut of 3D printed PVDF. No air inclusions or micropores can be seen within the material.