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Electronic Supplementary Information

Thermally robust and biomolecule-friendly room temperature bonding for the fabrication of elastomerplastic hybrid microdevice

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Fig. S1. A photo showing the modified flat heat block used for performing PCR using a hybrid PDMS–PC microdevice.



Fig. S2. Hydrophobic recovery behavior of APTES-coated PDMS after oxygen plasma treatment.



Fig. S3. Fluorescence measurement on (a) pristine PC and (b) GA-coated PC. Reaction of amine-functionalized fluorospheres on (c) APTES-coated PDMS and (d) GA-treated PC. The amine-functionalized fluorospheres (excitation 580 nm/emission 605 nm) were

visualized using a green fluorescence filter (excitation 510-560 nm (DM 575 nm), emission 590 nm).



Fig. S4. Encapsulation of an optical fiber inside a hybrid PDMS–PC microdevice bonded using the method introduced in this study. (a) An overall setup showing the encapsulated optical fiber inside the microdevice. (b) Transmission of white light into the optical fiber after the bonding. (c) Physical damage caused during the bonding realized by applying oxygen plasma treatment followed by heating and pressure.

Movie S1. Result of leak test conducted by injecting a blue ink solution into the microchannel at different flow rates.

Movie S2. Result of burst test conducted by injecting a compressed air into the microchannel.