Supplementary text for

A Soft Manipulator for Efficient Delicate Grasping in Shallow Water: Modelling, Control, and Real-world Experiments

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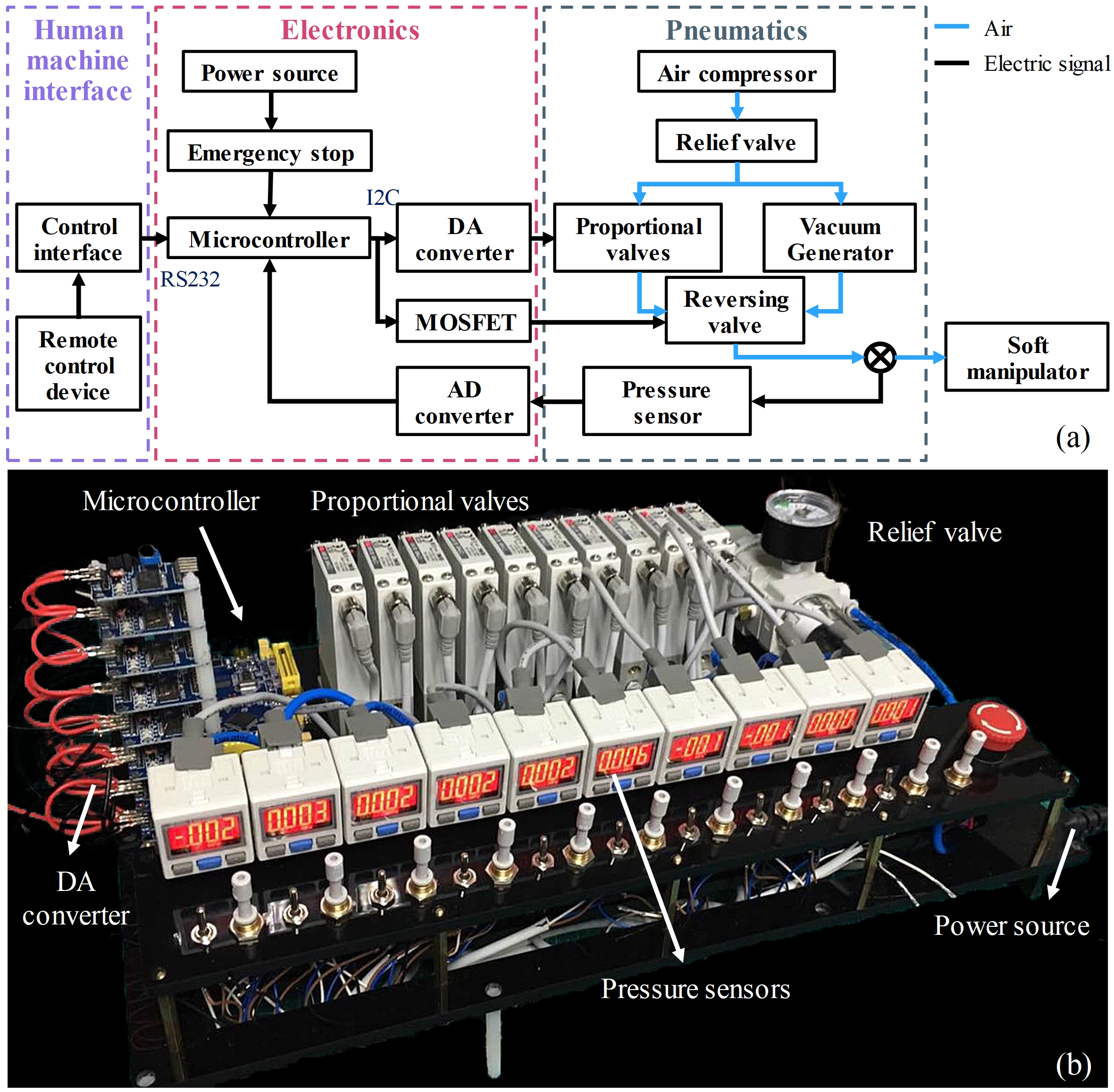


Fig. S1. Multi-channel pneumatic control system for the soft manipulator. (a) The framework of the system. (b) The hardware of the system, which contains a microcontroller, power source, DA converter, ten proportional valves, and ten air pressure sensors.

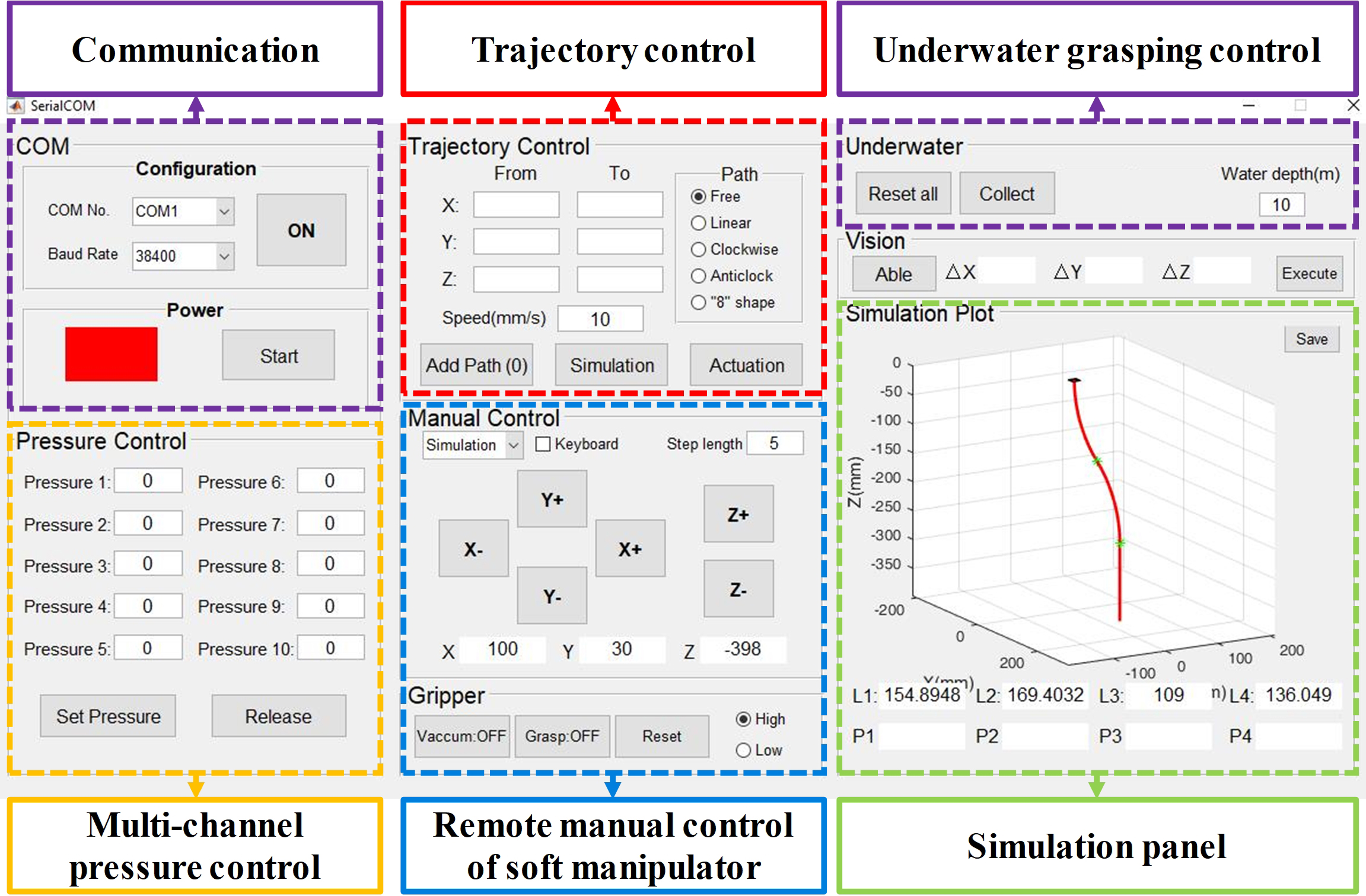


Fig. S2. The control interface of the soft manipulator. The software can control multi-channel pressure with inverse kinematics, and enable the trajectory tracing, underwater remote control and grasping as well.

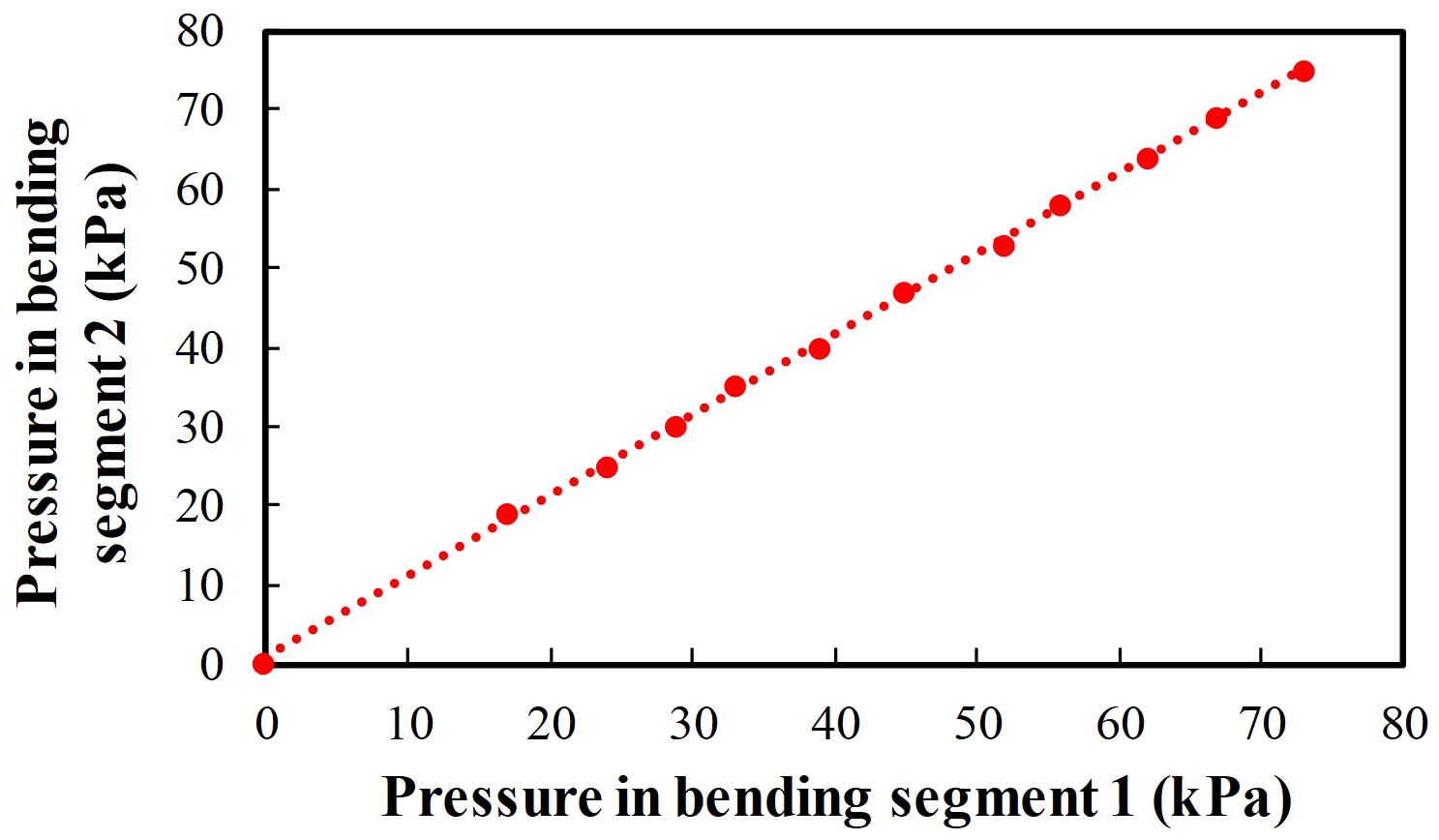


Fig. S3. Pressure calibration in bending segments 1 and 2 when the end effector is maintained vertical to the ground.

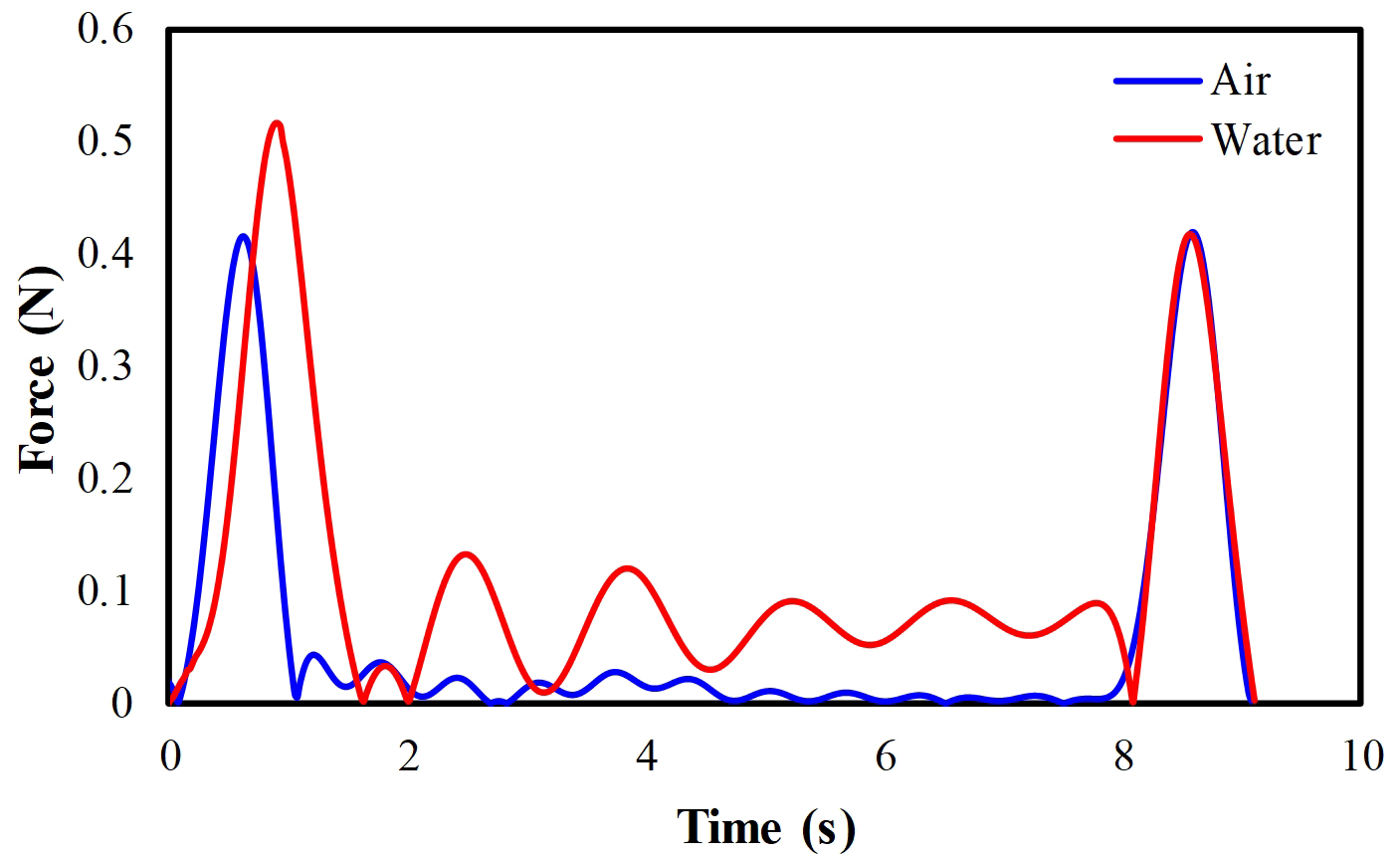


Fig. S4. Force measurements (both air and water) during the straight-line movements. The soft manipulator is controlled to move at the velocity of 50 mm/s with a total distance of 400 mm following a linear trajectory.