

Supporting Information

High rectification ratio nanofluidic diode induced by “ion pool”

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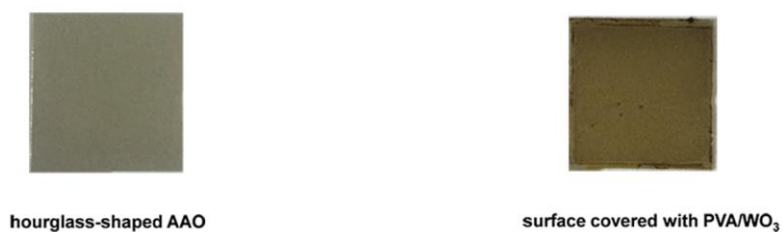


Figure S1. The corresponding optical photograph of hourglass shaped AAO and AAO-PVA/WO₃ nanochannels, respectively.

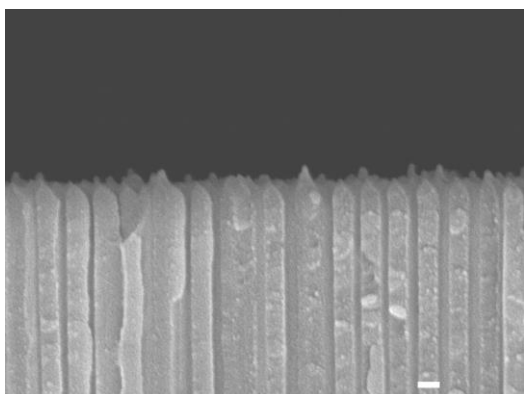


Figure S2. SEM image of the cross section of the oxidized PVA modified hourglass-shaped AAO openings. The PVA does not completely block the opening of the hourglass-shaped AAO. The scale bar is 100nm.

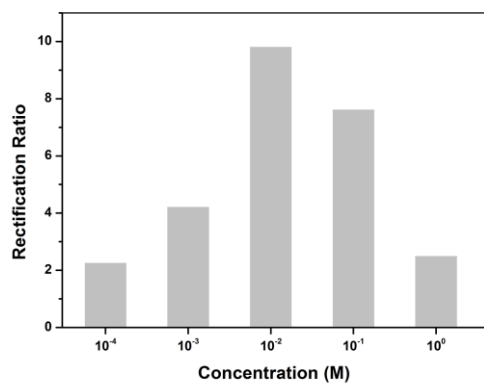
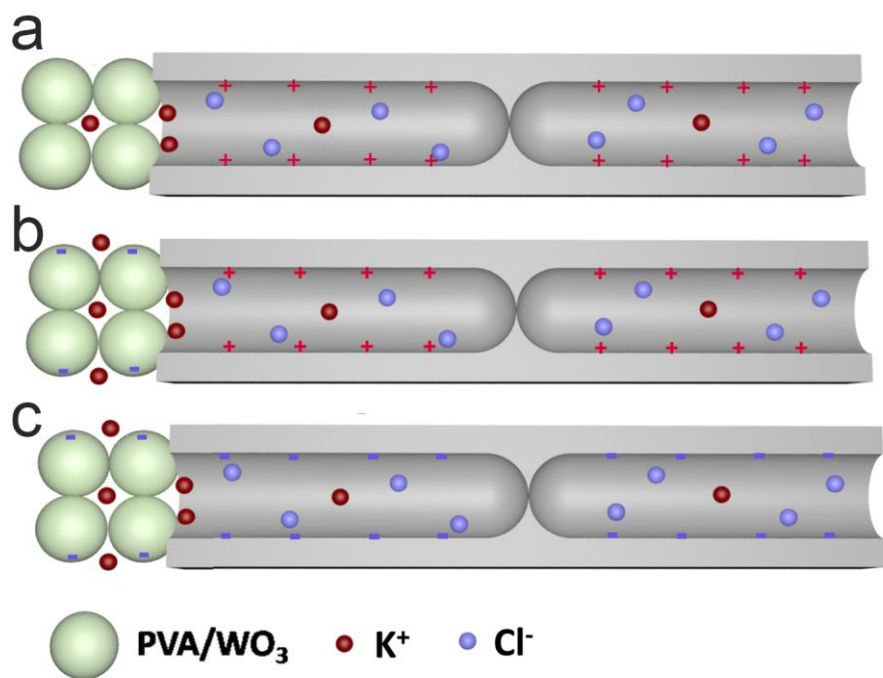


Figure S3. Histogram of the rectification ratio calculated from the I–V curves of AAO-PVA in different KCl concentration. The maximum rectification ratio also appears at 10 mM KCl solution.



Scheme S1. The surface charge condition under different pH values. a) pH value is 3. b) pH value is 7. c) pH value is 11.