SUPPLEMENTARY MATERIAL

Electrical noises reduction in nanopores experiments based on consensus filter

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Comparison study of using different sampling channels

In previous study, we have investigated the performance of the consensus filter based approach for noise reduction in nanopore experiments. By further exploring the consensus filters, we find that the number of used sampling channels have significant influence on noise reduction. Figure 1S shows the measured ionic currents using 16 measurement channels. Figure 2S shows the filtered ionic currents by using 4 measurement channels, 8 measurement channels, 12 measurement channels, and 16 analog channels respectively. From the comparison of Figure 2S, we can draw the conclusion that the noise will be reduced gradually with the increasing number of measurement channels used to measure currents.

**Figure 1S.** The current traces recorded by using 16 channel measurements
Figure 2S. The comparison of filtered results using different sampling channels