Electronic Supplementary Material (ESI) for Soft Matter.

Supporting information

1. CMP characterization

Table SI-1: CMP beads characterization.
*data from the manufacturer ** data measured by PCCS

	Mean diameter* (nm)	Mean diameter (mn)**	ζ potential (mV)
CMP_{100}	100	101.94	-34.73
CMP_{70}	70	65.18	-37.02
CMP_{40}	40	35.06	-33.27

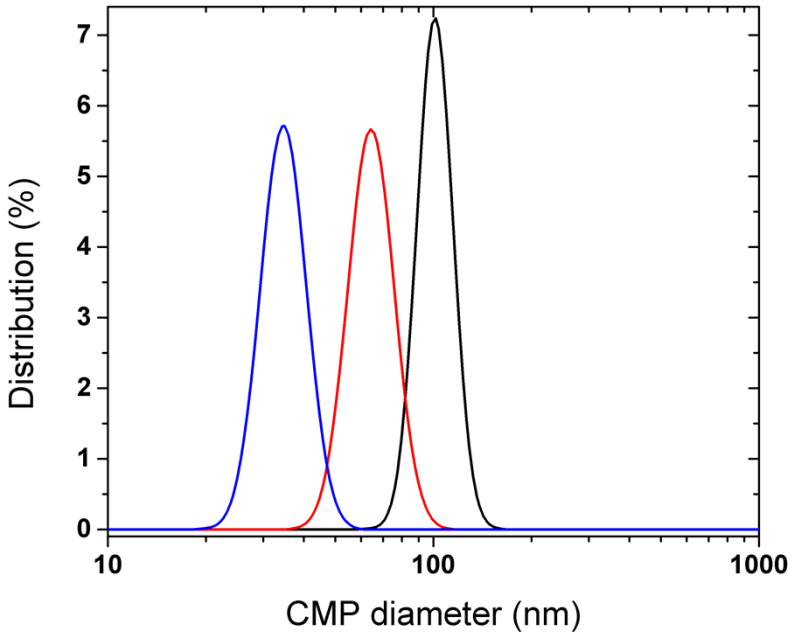

Fig. SI-2: Diameter distribution of the CMP obtained by PCCS (CMP_{40} line blue, CMP_{70} line red and CMP_{100} line black)

2. Additional current traces

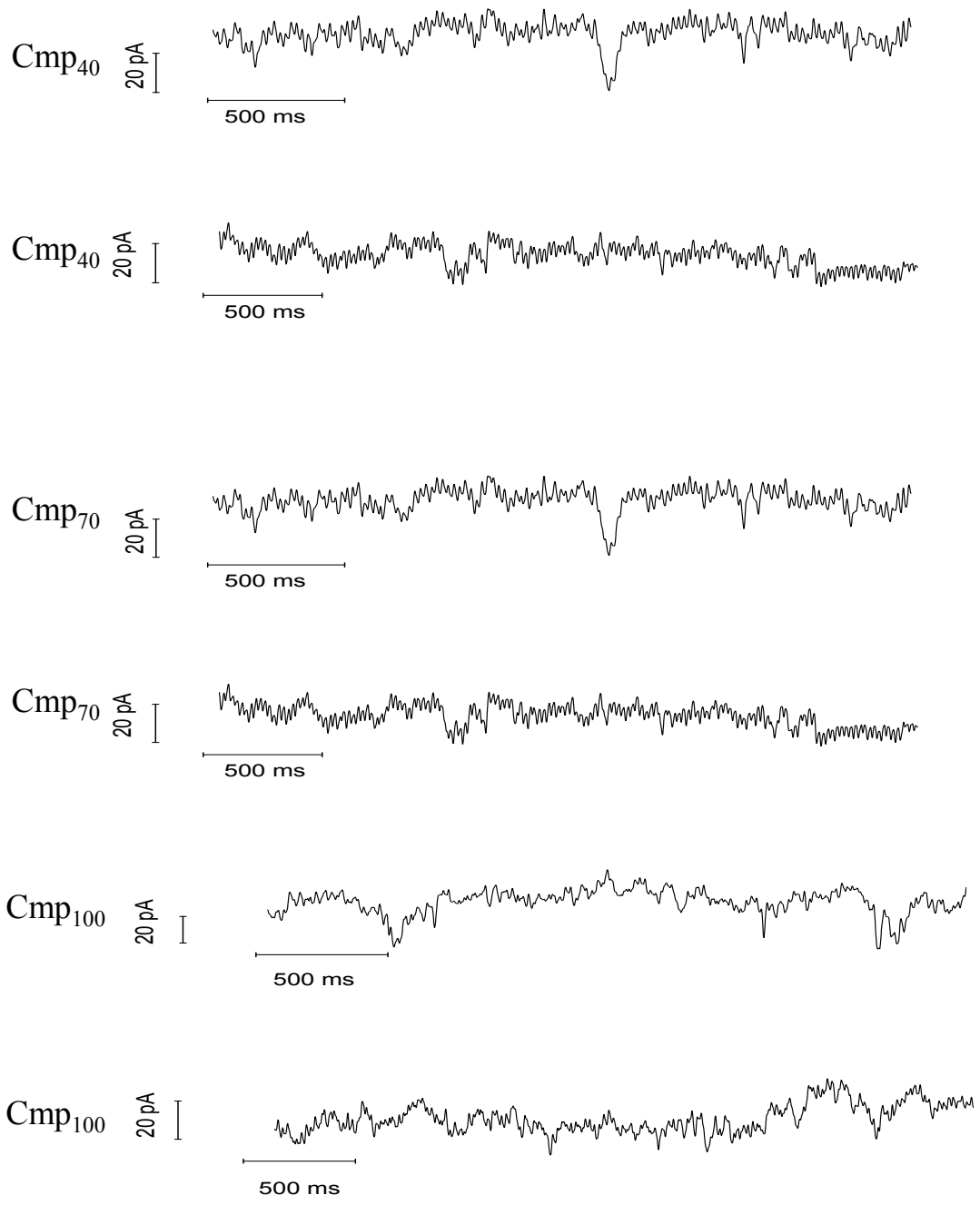

Fig. SI-3 : Zoom of Current trace of CMP translocation through the TMS-NP

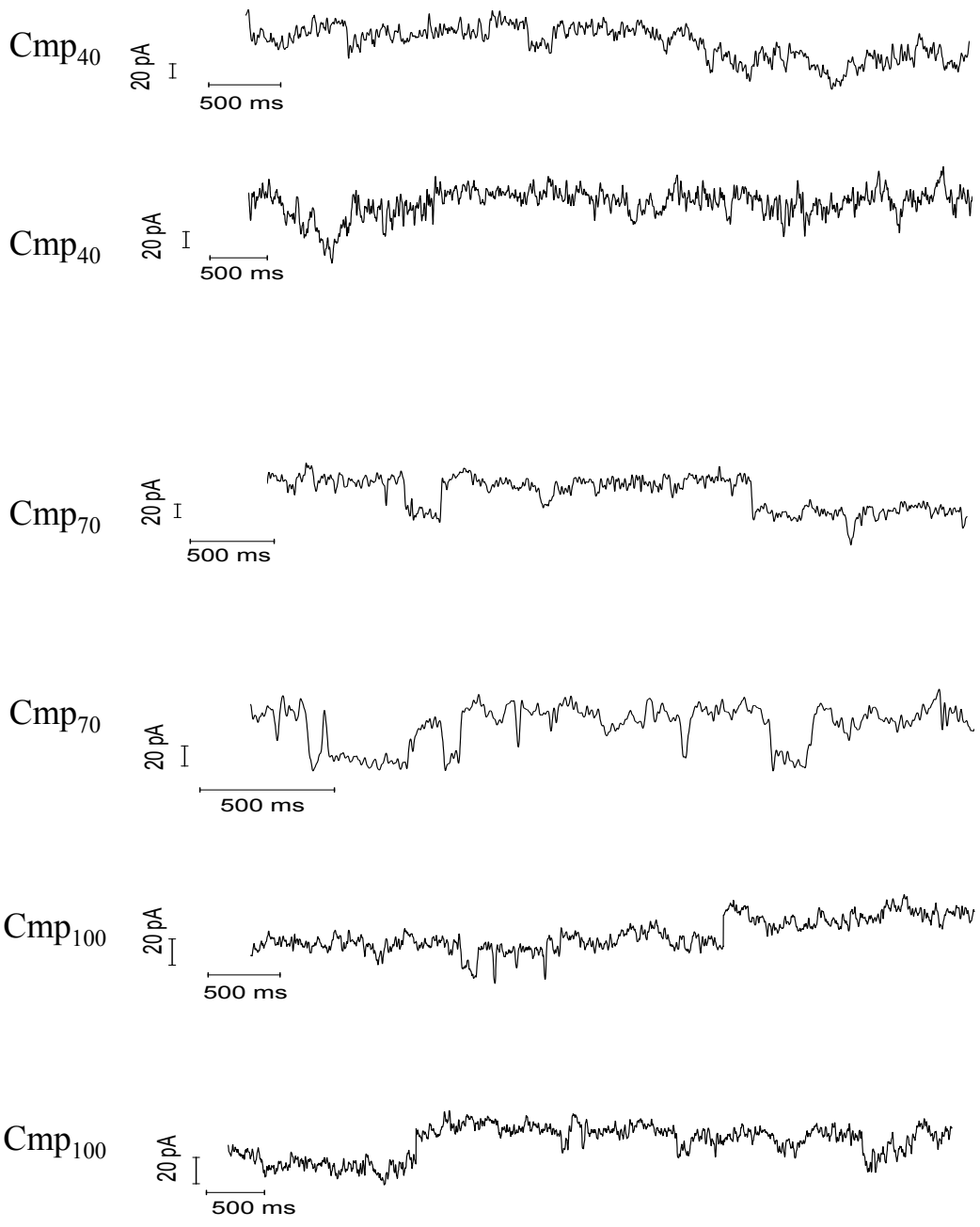

Fig. SI-4 : Zoom of Current trace of CMP translocation through the native-NP

3. Map single event (i.e. when only one CMP translocate through nanopore)

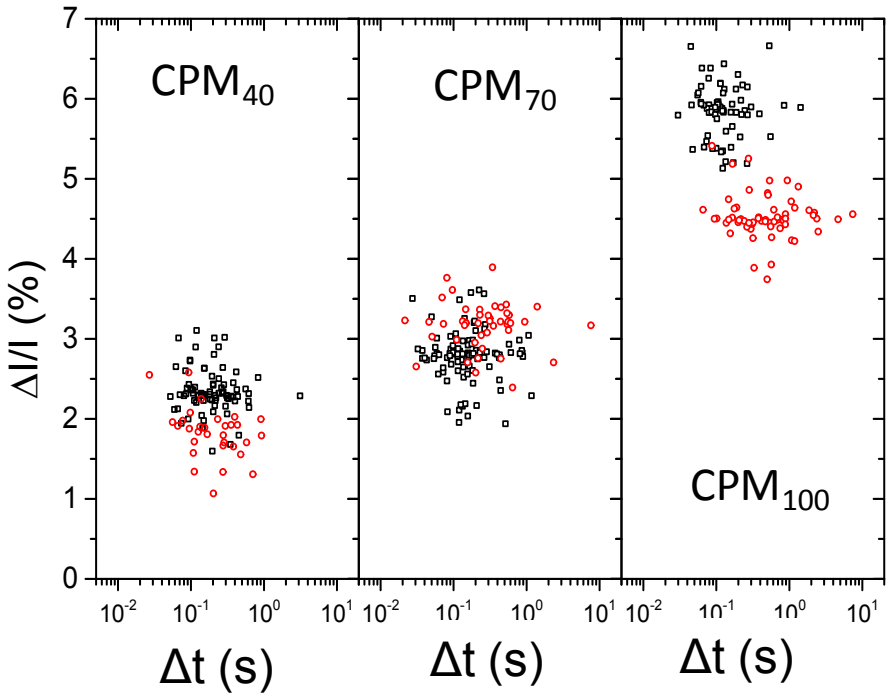

Fig. SI-5 : Relative current blockade *vs* dwell time induced by CMP translocation through native (black square) and TMS nanopores (red round)

4. Entrance frequency of CMP inside nanopore

Table SI-6 entrance frequency of CMP inside nanopore :
*extracted from experimental data **Calculated from eq. 7

	TMS Coated nanopore			Native nanopore		
	40 nm	70 nm	100 nm	40 nm	70 nm	100 nm
Frequency* (s^{-1})	2.52	2.05	1.31	2.61	4.97	7.75
Frequency** (s^{-1})	2.49	1.93	1.23	2.73	5.14	6.86