



Comparative Study of PVDF Sheets and Their Sensitivity to Mechanical Vibrations: The Role of Dimensions, Molecular Weight, Stretching and Poling

Miroslav Mrlík ^{1,*}, Josef Osíčka ¹, Martin Cvek ¹, Markéta Ilčíková ^{1,2,3,*}, Peter Srnec ¹, Danila Gorgol ¹, Pavel Tofel ^{4,5}

¹ Centre of Polymer Systems, Tomas Bata University in Zlín, Třída T. Bati 5678, 760 01 Zlín, Czech Republic; osicka@utb.cz (J.O.); cvek@utb.cz (M.C.); srnec@utb.cz (P.S.); gorgol@utb.cz (D.G.)

² Polymer Institute, Slovak Academy of Sciences, Dubravská cesta 9, 845 45, Bratislava 45, Slovakia

³ Department of Physics and Materials Engineering, Faculty of Technology, Tomas Bata University in Zlín, Vavrečkova 275, 760 01 Zlín, Czech Republic

⁴ Brno University of Technology, Department of Physics, Faculty of Electrical Engineering and Communication, Technická 10, 616 00, Brno, Czech Republic; tofel@feec.vutbr.cz

⁵ CEITEC BUT – Brno University of Technology, Purkynova 656/123, 612 00 Brno, Czech Republic

* Correspondence: mrlík@utb.cz (M.M.); ilcikova@utb.cz (M.I.)

Table S1. Sumarized values of piezoelectric charge coefficient d_{33} for 0% at various applied voltages.

Sample code	Applied voltage (kV mm ⁻¹)					
	0	0.5	1	3	5	7
PVDF 180 kDa 0.5 mm	N/A	N/A	N/A	0.1	0.2	0.4
PVDF 180 kDa 0.8 mm	N/A	N/A	N/A	N/A	N/A	N/A
PVDF 180 kDa 1.0 mm	N/A	N/A	N/A	N/A	N/A	N/A
PVDF 275 kDa 0.5 mm	N/A	N/A	0.1	0.2	0.4	0.4
PVDF 275 kDa 0.8 mm	N/A	N/A	N/A	N/A	N/A	N/A
PVDF 275 kDa 1.0 mm	N/A	N/A	N/A	N/A	N/A	N/A
PVDF 534 kDa 0.5 mm	N/A	N/A	N/A	0.1	0.1	0.3
PVDF 534 kDa 0.8 mm	N/A	N/A	N/A	N/A	N/A	N/A
PVDF 534 kDa 1.0 mm	N/A	N/A	N/A	N/A	N/A	N/A

*N/A denotes the piezoelectric charge coefficient d_{33} values under the detection limit.

Table S2. Sumarized values of piezoelectric charge coefficient, d_{33} for 0 kV mm⁻¹ at various applied deformations.

Sample code	Applied strain (%)					
	0	50	100	200	300	500
PVDF 180 kDa 0.5 mm	N/A	N/A	N/A	N/A	0.1	0.1
PVDF 180 kDa 0.8 mm	N/A	N/A	N/A	N/A	N/A	N/A
PVDF 180 kDa 1.0 mm	N/A	N/A	N/A	N/A	N/A	N/A
PVDF 275 kDa 0.5 mm	N/A	N/A	N/A	N/A	0.1	0.3
PVDF 275 kDa 0.8 mm	N/A	N/A	N/A	N/A	N/A	N/A
PVDF 275 kDa 1.0 mm	N/A	N/A	N/A	N/A	N/A	N/A
PVDF 534 kDa 0.5 mm	N/A	N/A	N/A	N/A	0.1	0.2
PVDF 534 kDa 0.8 mm	N/A	N/A	N/A	N/A	N/A	N/A
PVDF 534 kDa 1.0 mm	N/A	N/A	N/A	N/A	N/A	N/A

*N/A denotes the piezoelectric charge coefficient d_{33} values under the detection limit.