Electronic Supporting Information (ESI) for

Improved ambient operation of n-channel organic transistors of solution-sheared naphthalene diimide under bias stress

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Fig. S1 Topography of solution-sheared thin film of NDI 1 on quartz determined by AFM. The white arrow indicates the direction of shearing.

Fig. S2 Transfer characteristics of 40 OTFTs of solution-sheared NDI 1 in perpendicular orientation with regard to the shearing direction.

Fig. S3 Changes in n-channel charge carrier mobility $\mu$ (black) as well as their on/off ratio $I_{on}/I_{off}$ (red) represented as mean value of five OTFTs with perpendicular orientation to the shearing direction of solution-sheared NDI 1.
**Fig. S4** Increase in charge carrier mobility $\mu$ of an OTFT of solution sheared NDI 1 in perpendicular orientation with regard to the shearing direction during continuous measurements of 1000 transfer characteristics.

**Fig. S5** Changes in the transfer characteristics of an OTFT of solution-sheared NDI 1 in perpendicular orientation with regard to the shearing direction during continuous measurements of 200 transfer characteristics. The first (blue) and last (red) transfer characteristic is marked in color.

**Fig. S6** Increase in (a) on/off ratio ($I_{on}/I_{off}$) and (b) threshold voltage ($U_{th}$) of an OTFT of solution-sheared NDI 1 in perpendicular orientation with regard to the shearing direction during continuous measurements of 200 transfer characteristics.
Fig. S7 Increase in charge carrier mobility $\mu$ of an OTFT of solution-sheared NDI 1 in perpendicular orientation with regard to the shearing direction during four repetitions of continuous measurements of 100 transfer characteristics and a one minute delay before the next cycle.

Fig. S8 Output characteristics of an OTFT of solution-sheared NDI 1 in perpendicular orientation with regard to the shearing direction before (open symbol) and after (filled symbol) measuring continuously 200 times the transfer characteristic.