

Name and DOI of manuscript: Side chain engineering in indacenodithiophene-co-benzothiadiazole and its impact on mixed ionic-electronic transport properties; DOI: 10.1039/D3TC04738E

### **Data availability**

**Data presented here was measured by the Banerji group in agreement with data management policies (SNF, Horizon 2020...) and shown in the main manuscript, the is made publicly available in the BORIS repository of the University of Bern. For raw data, S.I. data and data acquired by collaborators, please contact the authors (available upon request). This file only includes the data acquired in the Banerji group and not data of all the collaborators who worked on this project.**

Data acquisition: Details on the methods of data acquisition are described in the above manuscript and the corresponding S.I.

### **Data and analysis:**

#### **Figure 5**

a) Absorption spectra of IDTBT-P50 (28 nm) upon application of doping voltage ranging from -0.1 V to -1.3 V ( $\Delta V = -0.1$  V) versus Ag/AgCl. b) Spectral signature of each species obtained from the MCR analysis in the different films and c) their corresponding normalized concentration for IDTBT-P50 (solid lines) and IDTBT-P0 (dashed lines) as a function of voltage. d) Time-resolved normalized species concentration for the doping at -0.9 V of IDTBT-P50. e) Comparison of the doping dynamics at lower doping level for the neutral species in the different thick and thin films, and f) comparison of the corresponding dedoping dynamics.

**Figure 5 data: a)** Fig5a\_AbsorptionSpectra.txt

**b)** Fig5b\_SpectralSignature.txt

**c)** Fig5c\_NormConcentration.txt

**d)** Fig5d\_TimeResConcentration.txt

**e)** Fig5e\_DopingDynamics.txt

**f)** Fig5f\_DedopingDynamics.txt

Person who measured: Isabelle Holzer

Reference to lab book: Notebook Number 1 page 95-100, 102