1. General Information

Dataset title:	**Zone-sectored organic crystals with spatially resolved exciton dynamics**
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2. Description

This document serves as a guideline for the data repository of the publication mentioned above.

3. Data Format

The data are in “.tiff” format, showing raw data as images from atomic force microscopy (AFM), Polarised optical microscopy (POM), fluorescence microscopy (FLIM) and selected are electron diffraction (SAED).

Also, “.txt” and “.asc” formats are raw luminescence spectroscopy data taken with time-correlated single photon counting detector. The time resolved data are in “.txt” format obtained with confocal setup using a fluorescence lifetime imaging microscope. The data are extracted from the raw data that could only be done with the PicoQuant software.

The SAED data are simple “.png” and “.tiff” format. The raw data (“.emd”) could be opened by the device software. The simulation data are simple “.png” images with the respective direction as file

names. The Crystal structure package (“.cif” format) could be opened with ReciPro or similar software.

4. Archive Structure

The data from each figure in the manuscript and also the supplementary information is placed in a separated folder. There are Readme!.txt files in each folder to handle the data.

5. System Requirements

To analyze the AFM data, the Gwyddion software is recommended. The optical microscopy images could be opened with ordinary image editing software such as ImageJ.

The “.txt” and “.asc” files could be opened with any data analysis software such as Igor pro or Gnuplot.

ReciPro could be used to handle “.cif” format.

References/Bibliography

Moha Naeimi, Tim Völzer, Regina Lange, Kevin Oldenburg, Stefan Lochbrunner, Ingo Barke and Sylvia Speller, “Zone-sectored organic crystals with spatially resolved exciton dynamics”, Advanced optical materials (2025) DOI:10.1002/adom.202502744