

This folder contains data used in the work reported in [1]. Should you use this data set for your work, please kindly cite the article [1].

This folder contains the subfolders: 'CLD', 'Images' and 'Morphologi data'.

The subfolder 'CLD' contains the chord length distribution (CLD) data collected (using the Mettler Toledo focused beam reflectance measurement G400 sensor) during the wet milling process for benzoic acid, metformin and paracetamol as reported in [1]. The CLD data for each material are contained in the subfolders 'Benzoic acid', 'Metformin' and 'Paracetamol' with the name corresponding to the material. The CLD data for each material span the stages T_1 to T_5 of the wet milling process for each material. However, that of metformin only span the stages T_1 to T_4 of the wet milling process. The stage T_5 of the wet milling process for metformin was not performed for reasons given in [1]. The CLD data for each material has been extracted into Microsoft Excel files for easy access.

The subfolder 'Images' contains images collected with the inline Mettler Toledo particle vision and measurement (PVM) V819 sensor as reported in [1]. The images collected for each material benzoic acid, metformin and paracetamol are contained in the subfolders 'Benzoic acid', 'Metformin' and 'Paracetamol' with the names corresponding to each material. In each subfolder 'Benzoic acid', 'Metformin' and 'Paracetamol', the images collected during the stages T_1 to T_5 of the wet milling process are contained in the subfolders 'T1' to 'T5'. Except in the case of 'Metformin' which contains subfolders 'T1' to 'T4'. Each of these subfolders 'T1' to 'T5' (or 'T1' to 'T4' in the case of 'Metformin') contains the images collected during the stages T_1 to T_5 (or T_1 to T_4 in the case of metformin) of the wet milling process for each material.

The subfolder 'Morphologi data' contains the data collected with the offline Malvern Morphologi G3 instrument. The data have been extracted to Microsoft Excel files for easy access. Table 1 gives the description of each Excel data files.

Table 1: Description of Excel data files.

Excel data file	Description
Benzoic acid starting material.xlsx	Statistics for each of the particles in the starting material of benzoic acid.
Benzoic acid milled product.xlsx	Statistics for each of the particles in the milled product of benzoic acid.
Metformin starting material.xlsx	Statistics for each of the particles in the starting material of metformin.
Metformin milled product.xlsx	Statistics for each of the particles in the milled product of metformin.
Paracetamol starting material.xlsx	Statistics for each of the particles in the starting material of paracetamol.
Paracetamol milled product.xlsx	Statistics for each of the particles in the milled product of paracetamol.
Morphologi PSD estimates.xlsx	Percentage volume fraction of particle sizes.

The statistics for each particle in the data files

- 'Benzoic acid starting material.xlsx'
- 'Benzoic acid milled product.xlsx'
- 'Metformin starting material.xlsx'

- 'Metformin milled product.xlsx'
- 'Paracetamol starting material.xlsx'
- 'Paracetamol milled product.xlsx'

are indicated in the column titles. All length dimensions are in μm and areas in μm^2 except when specified in pixels.

The Excel data file 'Morphologi PSD estimates.xlsx' contains the sheets described in Table 2.

Table 2: Description of the sheets in the Excel data file 'Morphologi PSD estimates.xlsx'.

Sheet	Description
MetStartLength	Percentage volume fraction of metformin starting material as a function of particle length.
MetMilledLength	Percentage volume fraction of metformin milled product as a function of particle length.
MetStartCE	Percentage volume fraction of metformin starting material as a function of circular equivalent (CE) diameter.
MetMilledCE	Percentage volume fraction of metformin milled product as a function of CE diameter.
BZStartLength	Percentage volume fraction of benzoic acid starting material as a function of particle length.
BZAMilledLength	Percentage volume fraction of benzoic acid milled product as a function of particle length.
BZStartCE	Percentage volume fraction of benzoic acid starting material as a function of CE diameter.
BZAMilledCE	Percentage volume fraction of benzoic acid milled product as a function of CE diameter.
PCMStartLength	Percentage volume fraction of paracetamol starting material as a function of particle length.
PCMMilledLength	Percentage volume fraction of paracetamol milled product as a function of particle length.
PCMStartCE	Percentage volume fraction of paracetamol starting material as a function of CE diameter.
PCMMilledCE	Percentage volume fraction of paracetamol milled product as a function of CE diameter.

[1] O. S. Agimelen, V. Svoboda, B. Ahmed, J. C. Amengual, J. Dziewierz, C. J. Brown, T. McGlone, A. Cleary, C. Tachtatzis, C. Michie, A. J. Florence, I. Andonovic, A. J. Mulholland, J. Sefcik, "Monitoring crystal breakage using inline imaging and chord length distribution".