

# **Title: Optimization of a Decatungstate-Catalyzed C(sp<sup>3</sup>)-H Alkylation Using a Continuous Oscillatory Millistructured Photoreactor**

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This dataset is relative to the publication with the above title, published in Org. Process Res. Dev. with the following DOI: 10.1021/acs.oprd.0c00235. The final published version of the manuscript and the corresponding supplementary information are open access. The two files have also been reported here as PDF files. Below are instructions on the nature of the data reported in this dataset

## **GC-FID data**

The files found in this folder represent GC-FID data. The “.gcd” files can either be opened with the software provided by Shimadzu, or with the open source software OpenChrom (downloadable here: <https://lablicate.com/platform/openchrom>).

The data corresponds to calibration curves and the reaction data, as found in the schemes and tables reported in the manuscript (which can be found in the main folder).

The GD-FID data is also reported in a MS Excel file, where the corresponding reaction conditions are also reported.

## **GC-MS data**

The files found in this folder represent GC-MS data. The “.qgd” files can either be opened with the software provided by Shimadzu, or with the open source software OpenChrom (downloadable here: <https://lablicate.com/platform/openchrom>).

The data contains the mass fragmentation of product and side-product of the reaction.

## **Origin files**

The files in this folder represent conversion, yield, and productivity data, as derived from the GC-FID data. The “.opju” files contain both numerical data and graphs. These files can be opened with the software Origin or OriginPro. A free trial version of this software can be downloaded at <https://www.originlab.com/>.