

Tutorial on the usage of ECL-PF

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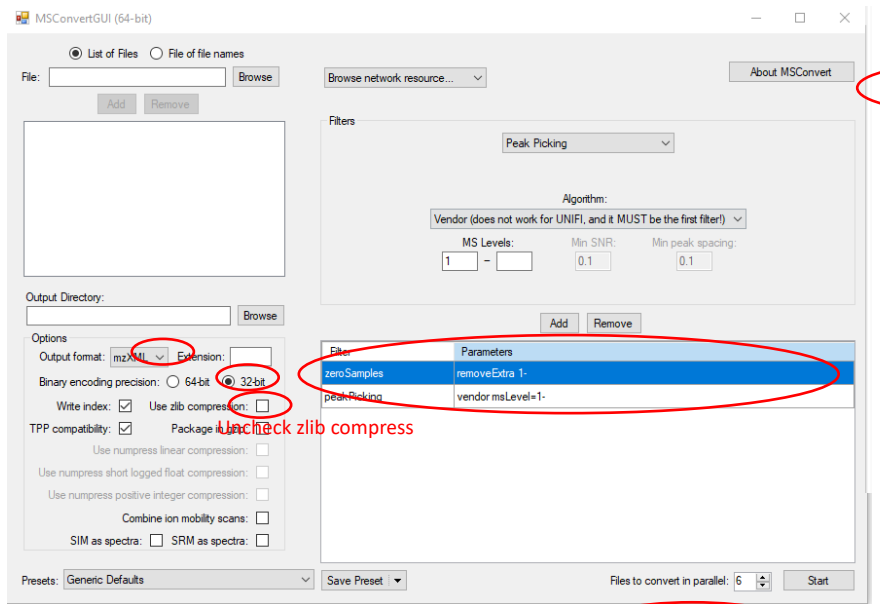
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Introduction

- ECL-PF is a powerful XL-MS tool designed specifically for cleavable data analysis.
- It is written in Python. Basic Python v3.6 or above environment is needed including [numpy](#) module, [pyteomics](#) module and [lxml](#) module. ECL-PF is running in command line for now. GUI version will be updated soon.
- Any question regarding to technical part should email to czhouau@connect.ust.hk (ZHOU, Chen)

Step 1

- Convert your data into .mzXML format and find a suitable FASTA file. User can choose MSConvert to transfer your file. Below is the concrete setting. After that, put your FASTA file under directory **root/** and your data (multiple files supported) under directory **root/data/**. Note that if you are using the text example provided by us, you don't need to convert the data format here.



MSConvertGUI (64-bit)

File: Browse

Output Directory: Browse

Options

Output format: ☐ mzXML ☐ Extension:

Binary encoding precision: ☐ 64-bit ☒ 32-bit

Write index: ☒ Use zlib compression: ☒ **Use zlib compress**

TPP compatibility: ☒ Package:

Use numpress linear compression: ☐

Use numpress short logged float compression: ☐

Use numpress positive integer compression: ☐

Combine ion mobility scans: ☐

SIM as spectra: ☐ SRM as spectra: ☐

Presets: Save Preset

Files to convert in parallel: Start

Name	Parameters
zeroSamples	removeExtra 1-
peakPicking	vendor msLevel=1-

Filters

Peak Picking

Algorithm:

Vendor (does not work for UNIFI, and it MUST be the first filter!)

MS Levels: - Min SNR: Min peak spacing:

zlib.dll

MS180768_L1_cid30_etd_20180702121846....

libexpat.dll

Hardklor.exe

Hardklor.conf

zlib.dll

Name	Date modified	Type	Size
data	2/25/2022 9:45 AM	File folder	
BSA.fasta	6/8/2021 11:51 PM	FASTA File	1 KB
configuration.py	2/25/2022 9:24 AM	PY File	2 KB
database.py	2/25/2022 9:24 AM	PY File	20 KB
decoy_generation.py	1/21/2021 2:23 PM	PY File	2 KB
ECL_PF.py	2/25/2022 9:24 AM	PY File	23 KB
fdr.py	10/26/2021 10:40 PM	PY File	13 KB
fragment.py	4/16/2021 9:34 PM	PY File	6 KB
local_alignment.py	2/25/2022 9:29 AM	PY File	5 KB
match.py	12/5/2021 12:54 PM	PY File	24 KB
precursor_discovery.py	10/13/2021 1:38 PM	PY File	13 KB
precursor_refinement.py	2/25/2022 9:26 AM	PY File	19 KB
protein_score.py	1/12/2022 8:02 PM	PY File	24 KB
spectra_separation.py	2/25/2022 9:26 AM	PY File	10 KB
splitctrl.py	1/12/2022 9:32 AM	PY File	18 KB

(D:) > OneDrive - HKUST Connect > Research > ECL_paper > ECL_PFM_source > ECL_PF_source > data

Name	Status	Date modified	Type	Size
Hardklor.conf	✓	11/9/2021 5:15 PM	CONF File	4 KB
Hardklor.exe	✓	4/13/2021 4:38 PM	Application	3,830 KB
libexpat.dll	✓	4/13/2021 4:37 PM	Application exten...	136 KB
MS180768_L1_cid30_etd_20180702121846....	✓	1/12/2022 8:54 AM	MZXML File	230,775 KB
zlib.dll	✓	4/13/2021 4:38 PM	Application exten...	85 KB