#Script name'Analyse\_2P’

#Get an excel file containing the raw data. Raw need to be organized as following: time [ms] in the first column and the flurorescence (df/f) signals of the different ROIs in the following columns.

#Run 'Analyse\_2P’

[filename,path] = uigetfile('.xlsx');

cd(path)

Data = readtable([path,filename]);

Moyennes\_Name = ["Nb", "Amplitude", "Duration"];

writematrix(Moyennes\_Name, 'Analyse\_2P.xlsx', 'Sheet', 'Moyennes', 'Range', 'A1')

writematrix(Moyennes\_Name, 'Analyse\_2P.xlsx', 'Sheet', 'Moyennes', 'Range', 'E1')

Balise = inputdlg("Balise temporelle (ms) ?");

Balise = str2num(Balise{1});

Num\_Fig = 0;

for k = [2:size(Data,2)]

[pks, locs, width, proms] = findpeaks(Data{:,k},Data{:,1},'MinPeakProminence',0.2, 'MinPeakDistance',500);

if isempty(pks) == 1

pks = 0; locs = 0; width = 0; proms = 0;

end

Avant = find(locs<Balise); Apres = find(locs>Balise);

Amp\_mean\_before = mean(proms(Avant)); Amp\_mean\_after = mean(proms(Apres));

Dur\_mean\_before = mean(width(Avant)); Dur\_mean\_after = mean(width(Apres));

Nb\_before = size(pks(Avant),1); Nb\_after = size(pks(Apres),1);

Moyennes\_before = [Nb\_before, Amp\_mean\_before, Dur\_mean\_before]; Moyennes\_before(isnan(Moyennes\_before))=0;

Moyennes\_after = [Nb\_after, Amp\_mean\_after, Dur\_mean\_after]; Moyennes\_after(isnan(Moyennes\_after))=0;

Cellule = ['A',num2str(k-1)];

Cellule\_mean\_before = ['A',num2str(k)];

Cellule\_mean\_after = ['E',num2str(k)];

Num\_Fig = Num\_Fig + 1;

if Num\_Fig == 10

Num\_Fig = 1;

end

figure(floor((k-2)/9)+1)

subplot(3,3, Num\_Fig)

plot(Data{:,1},Data{:,k}, locs, pks, 'or')

writematrix(Moyennes\_before, 'Analyse\_2P.xlsx', 'Sheet', 'Moyennes', 'Range', Cellule\_mean\_before)

writematrix(Moyennes\_after, 'Analyse\_2P.xlsx', 'Sheet', 'Moyennes', 'Range', Cellule\_mean\_after)

writematrix(proms', 'Analyse\_2P.xlsx', 'Sheet', 'Amplitude', 'Range', Cellule)

writematrix(width', 'Analyse\_2P.xlsx', 'Sheet', 'Duration', 'Range', Cellule)

end