Student-T Test

# hypothesis testing

rgbData = load\_data()

gIndex = {}

for hormone in rgbData.keys():

    gIndexH = {}

    for dayA in rgbData[hormone].keys():

        gIndexD = {}

        for solutionA in rgbData[hormone][dayA].keys():

            d = rgbData[hormone][dayA][solutionA]

            dg = d['G']

            dr = d['R']

            dindex =[]

            for i in range(len(dg)):

                dindex.append(dg[i]/dr[i])

            gIndexD[solutionA] = dindex

        gIndexH[dayA] = gIndexD

    gIndex[hormone] = gIndexH

data1 = gIndex['Gibberellin']['day15']['10^-5']

# data2 = gIndex['Gibberellin']['day15']['Control Group']

data2 = gIndex['Gibberellin']['day15']['10^-7']

s,p = hypotest(data1, data2)

Data & Image Analysis

def collect\_data(allFile,mouseRGB ):

   for a in allFile:   *#-------------------------------------------------------------------------*

imgRawFile = a

       imgRaw     = imgRawFile[0]

*# imgRawFile = allFile[10]*

num = imgRawFile[1]

       for b in range(num):

           myXYRGB = []

           imgFile    = 'data/'    + imgRaw

           c = b+1

           rgbFile    = 'results/' + imgRaw +'\_'+str(c)+'.txt'

           flag\_needClick = 1

           if flag\_needClick == 1:

*#  ------------------ 1) : load image*

imS      = load\_image(imgFile)  *# show\_image(imS)*

*# ------------------- 2) : get x, y, r, g, b*

cv2.namedWindow(imgRaw)

               param = [imS]

               cv2.setMouseCallback(imgRaw,mouseRGB, param)

               while(len(myXYRGB)) < 31:

                   cv2.namedWindow(imgRaw)                     *#  Do until*

cv2.imshow(imgRaw,imS)   *#  print(param[2])*

if cv2.waitKey(20) & 0xFF == 27:

                       break

           cv2.destroyAllWindows()

*# ------------------------ 3) : save your data*

import numpy as np

           np.savetxt(rgbFile, myXYRGB, delimiter=",", fmt='%s')