

## SUPPLEMENTARY INFORMATION

### **Calibration Factors of SidePak AM520 and PurpleAir Monitors for Tobacco and Marijuana Aerosols**

Kai-Chung Cheng,\* Alvaro Medina Perez, Linda Lara Jacobo, Miguel Angel Zavala Perez

San Diego State University, San Diego, CA, USA

\*corresponding author: [kcheng2@sdsu.edu](mailto:kcheng2@sdsu.edu)

## Python codes for retrieving synchronized SidePak measurements and computing time-average PM2.5 concentrations.

```
import pandas as pd

pump_start='11:00:00'
pump_end='15:00:59'

table=pd.DataFrame({"SidePak":["0007','0008','0009','1002','9002'],
                    "PM2.5":[0,0,0,0,0]})

i=0
for file in ['SP0007_12-30-25.csv','SP0008_12-30-25.csv',
            'SP0009_12-30-25.csv','SP1002_12-30-25.csv',
            'SP9002_12-30-25.csv']:
    df=pd.read_csv(file,skiprows=31,header=0,sep=',')
    sensor_mean=df["mg/m³"][[(df["HH:mm:ss"]>=pump_start)&(df["HH:mm:ss"]<=pump_end)].mean()*1000
    table["PM2.5"].iloc[i]=sensor_mean
    i=i+1

print(table)
```

## Python codes for retrieving synchronized PurpleAir measurements and computing time-average PM2.5 concentrations.

```
import pandas as pd

table=pd.DataFrame({"PurpleAir":["3','5A','7','15','26','ED','F2'], "PM2.5":[0,0,0,0,0,0,0]})

i=0
for file in ['20251230_3.csv','20251230_5A.csv',
            '20251230_7.csv','20251230_15.csv',
            '20251230_26.csv','20251230_ED.csv',
            '20251230_F2.csv']:
    df=pd.read_csv(file,header=0,sep=',')
    start_row=12    #row number in csv
    end_row=131    #row number in csv

    df_sensor1=pd.to_numeric(df['pm2_5_cf_1'],errors='coerce').iloc[start_row-2:end_row-2+1].mean()
    df_sensor2=pd.to_numeric(df['pm2_5_cf_1_b'],errors='coerce').iloc[start_row-2:end_row-2+1].mean()
    sensor_mean=(df_sensor1+df_sensor2)/2
    table["PM2.5"].iloc[i]= sensor_mean
    i=i+1

print(table)
```