```python
import logging
logging.getLogger('matplotlib.font_manager').setLevel(logging.ERROR)
import scanpy as sc
import scvelo as scv
import scvi
import seaborn as sns
import plotly.express as px
import numpy as np
from dash import Dash, dcc, html, Input, Output

import pandas as pd

import os
import sys
import time
import gc
os.environ['R_HOME'] = sys.exec_prefix+"/lib/R/"

# Plotting
import matplotlib
import matplotlib.pyplot as plt
import matplotlib as mpl
from matplotlib.backends.backend_pdf import PdfPages
from matplotlib.colors import LinearSegmentedColormap, ListedColormap
from matplotlib.lines import Line2D

from copy import copy
reds = copy(mpl.cm.Reds)
reds.set_under("lightgray")

project_directory = '/Cranio_Lab/Louk_Seton/4_species_project'
os.chdir(os.path.expanduser("~")+project_directory)
```