Load required packages and add the alphaMELTS files to the Python path

```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import pyMELTScalc as M

import sys
sys.path.append(r"MELTS")
```

Set bulk composition (melt-inclusion composition from Anderson et al. [2000]).

```
bulk = {'SiO2_Liq': 77.6,
        'TiO2_Liq': 0.09,
        'Al2O3_Liq': 12.3,
        'FeOt_Liq': 0.65,
        'MgO_Liq': 0.02,
        'CaO_Liq': 0.41,
        'Na2O_Liq': 4.49,
        'K2O_Liq': 4.69}
```

Run calculations - specify phases of interest, pressure range, H_2O content, and oxygen fugacity.

```
Results = M.find_mineral_cosaturation(
    bulk = bulk, Model = "MELTSv1.0.2",
    phases = ['quartz1', 'plagioclase1', 'k-feldspar1'],
    P_bar = np.linspace(250, 5000, 32), T_initial_C = 900,
    H2O_sat = True, find_min = True, fO2_buffer = "NNO")
```