Description of Additional Supplementary Files

File name: Supplementary Data
Description: All data generated or analyzed and codes during this study.

- **Raw data**
  - WT LPFM_MI.xlsx → Lateral PFM raw data of mineralized wild type bone (MI)
  - WT_PFM.xlsx → Lateral PFM raw data of demineralized wild type collagens (WT)
  - OI_PFM.xlsx → Lateral PFM raw data of demineralized osteogenesis imperfecta collagens (OI)
  - WTOIPFM_Data.mat → Dataset of calibrated WT, OI, MI PFM data for MATLAB. Detailed description for each column of the dataset in WTMIPFM_New.m
  - WTOI_Each_Data.mat → Lateral PFM raw data of WT, OI for MATLAB. Detailed description for each column of the dataset in WTMIPFM_New.m
  - MI_Each_Data.mat → Lateral PFM raw data of MI for MATLAB.

- **Figure 2**
  - WTPFM_Profile.m → MATLAB code to draw Figure 2c
  - WTPFM_Profile.mat → MATLAB data to draw Figure 2c
  - OIPFM_Profile.m → MATLAB code to draw Figure 2f
  - OIPFM_Profile.mat → MATLAB data to draw Figure 2f

- **Figure 3, Supplementary Figure 1**
  - Calibrated_WTOIPFM_final.m → MATLAB code to draw Figure 3a, 3b
  - Calibrated_WTOIPFM.mat → MATLAB data to draw Figure 3a, 3b
  - WTOIPFM_Bar_JMP_basedon_bone.m → MATLAB code to draw Figure 3c

- **Figure 6**
  - WTOI_Width.m → MATLAB code to draw Figure 6a
  - WTOI_Width.mat → MATLAB data to draw Figure 6a
  - WTMIPFM_New.m → MATLAB code to draw Figure 6f

- **Figure 7**
  - Resonant_curvefitting_Qfactor.m → MATLAB code to draw Figure 7b, 7c
  - Resonant_curvefitting_Qfactor_Data.mat → MATLAB data to draw Figure 7b, 7c
  - Q_factor_calculator.m → MATLAB code to calculate Q factor from PFM data
• **Supplementary Figure 4**
  - WT_DART_Freqshift_subplot.m → MATLAB code to draw Supplementary Figure 4a
  - WT_DART_Freqshift.mat → MATLAB data to draw Supplementary Figure 4a
  - OL_DART_Freqshift_subplot.m → MATLAB code to draw Supplementary Figure 4b
  - OL_DART_Freqshift.mat → MATLAB data to draw Supplementary Figure 4b