Electronic Supplementary Materials

Data for Plots 3-6(b)

General description

Each CSV file contains the necessary vector data to produce the figure described in its title. Each filename consists of the following structure:

`Fig<NUMBER>_<SPLITTER_TYPE>_<FIGURE_DESCRIPTION>_<CONTENTS_INFORMATION>.csv`, where:

- `NUMBER`: figure number (3b, 4b, 5, or 6b)
- `SPLITTER_TYPE`: standardSplitter or modifiedSplitter
- `FIGURE_DESCRIPTION`: Description relating to figure caption in manuscript.
- `CONTENTS_INFORMTATION`: Description of the specific contents of the file.

Thirteen files have been submitted.

Descriptions per files

[Figure 3b (4 files)]

Each file contains the Pressure, Tidal Volume and Flow variables for a specific patient.

- `Fig3B_standardSplitter_PressureVolumeFlow_PatientModelsAtoD_LungModelA`: Variables for a patient with a lung model A (healthy, compliance at 0.054 L/cmH2O)

- `Fig3B_standardSplitter_PressureVolumeFlow_PatientModelsAtoD_LungModelB`: Variables for a patient with a lung model B (mild ARDS, 20% reduction with respect to A)

- `Fig3B_standardSplitter_PressureVolumeFlow_PatientModelsAtoD_LungModelC`: Variables for a patient with a lung model C (moderate, 30% reduction)

- `Fig3B_standardSplitter_PressureVolumeFlow_PatientModelsAtoD_LungModelD`: Variables for a patient with a lung model D (severe, 40% reduction)

[Figure 4b (3 files)]

Each file contains Pressure, Tidal volume and Flow for two patients paired under the standard splitter.

`Fig4B_standardSplitter_comparison_PressureVolumeFlow_dissimilarPatientModels_Patients_A_B`: Variables for patient pair A-B.

`Fig4B_standardSplitter_comparison_PressureVolumeFlow_dissimilarPatientModels_Patients_A_D`: Variables for patient pair A-C.

`Fig4B_standardSplitter_comparison_PressureVolumeFlow_dissimilarPatientModels_Patients_A_D`: Variables for patient pair A-D.

[Figure 5b (3 files)]

Each file contains Pressure, Tidal volume and Flow for two patients paired under the modified splitter.

`Fig5B_modifiedSplitter_normaliseTidalVolume_dissimilarPatientModels_Patients_A_B`: Variables for patient pair A-B where tidal volume was normalised using the proposed Modified Splitter.

`Fig5B_modifiedSplitter_normaliseTidalVolume_dissimilarPatientModels_Patients_A_C`: Variables for patient pair A-C where tidal volume was normalised using the proposed Modified Splitter.

`Fig5B_modifiedSplitter_normaliseTidalVolume_dissimilarPatientModels_Patients_A_D`: Variables for patient pair A-D where tidal volume was normalised using the proposed Modified Splitter.

[Figure 6b (3files)]

Each file contains Pressure, Tidal volume and Flow for two patients with a lung model C (C-C) paired, where the tidal volume was altered by the modified splitter.

`Fig6B_modifiedSplitter_adjustTidalVolume_Patients_C_C_baseline`: Variables for pair C-C, where no alteration was made.

`Fig6B_modifiedSplitter_adjustTidalVolume_Patients_C_C_decrease`: Variables for pair C-C, where the Tidal Volume of one patient was decreased by 30% whilst maintaining the other patient constant.

`Fig6B_modifiedSplitter_adjustTidalVolume_Patients_C_C_increase`: Variables for pair C-C, where the Tidal Volume of one patient was increased by 30% whilst maintaining the other patient constant.

Data description per column

Each file contains a time column and data columns, each of them with a descriptive heading. Headings contain the following structure:

<VARIABLE>_<PATIENT_PAIR>_<PATIENT>, where:

VARIABLE: Control, Pressure (in cmH2O), ModifiedVol (Tidal Volume in mL), and Flow (in L/min)

PATIENT_PAIR: Includes all pairwise combinations of letters A,B,C and D (corresponding to the Lung Compliance Models described in the manuscript).

PATIENT: Variable corresponding to the specific patient in a pair. For example, `Pressure_AD_1A` corresponds to patient 1, with a lung model A.