# ADDITIONAL FILE 3

**Title: Static compliance and driving pressure are associated with ICU mortality in intubated COVID-19 ARDS.**

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**Additional file 3. Multicollinearity analysis.**

|  | MODEL 1 |  | MODEL 2 |
|---|---|---|---|
| *Age (years)* | 1.45 | *Age (years)* | 1.53 |
| *Gender (male)* | 1.33 | *Gender (male)* | 1.23 |
| *BMI (kg/m²)* | 1.62 | *BMI (kg/m²)* | 1.66 |
| *SOFA score at ICU admission* | 1.15 | *SOFA score at ICU admission* | 1.25 |
| *Charlson comorbidity index* | 1.19 | *Charlson comorbidity index* | 1.66 |
| *pH** | - | *pH** | - |
| *$PaO_2/FiO_2$ (mmHg)* | 1.27 | *$PaO_2/FiO_2$ (mmHg)* | 1.21 |
| *$PaCO_2$ (mmHg)* | 1.61 | *$PaCO_2$ (mmHg)* | 1.49 |
| *Tidal volume (ml/kg of ideal body weight)* | 1.67 | *Tidal volume (ml/kg of ideal body weight)* | 1.67 |
| *Set respiratory rates (breaths/min)* | 1.75 | *Set respiratory rates (breaths/min)* | 1.75 |
| *Total PEEP ($cmH_2O$)** | - | *Total PEEP ($cmH_2O$)** | - |
| *Plateau pressure ($cmH_2O$)** | - | *Plateau pressure ($cmH_2O$)** | - |
| *Static compliance of the respiratory system (ml/$cmH_2O$)* | 1.31 | *Driving pressure ($cmH_2O$)* | 1.21 |

The association between ICU mortality and static compliance of respiratory system was investigated by model 1, and the association between ICU mortality and driving pressure by model 2.

**\***: Variables excluded from model 1 and 2 due to multicollinearity, which was defined by GVIF$^{(1/(2×Df))}$ value greater than 2.

**Abbreviations:** BMI: body mass index; SOFA: sequential organ failure assessment; ICU: intensive care unit; $PaO_2$: partial pressure of arterial oxygen; $PaO_2/FiO_2$: ratio between partial pressure of arterial oxygen and fraction of inspired oxygen; $PaCO_2$: partial pressure of carbon dioxide; PEEP: positive end-expiratory pressure.