

**Supplementary Table 2.** Improvement of reclassification and discrimination of 28-day mortality with addition of systemic inflammation-related biomarkers to SOFA scores

| Model        | C-statistics<br>(95% CI) | Model performance compared to baseline model |         |                       |         |                  |         |
|--------------|--------------------------|--|---------|-----------------------|---------|------------------|---------|
|              |                          | $\Delta$ C-statistics<br>(95% CI)            | p-value | NRI<br>(95% CI)       | p-value | IDI<br>(95% CI)  | p-value |
| SOFA         | 0.63 (0.61–0.65)         | -  | -       | -                     | -       | -                | -       |
| SOFA + CAR   | 0.64 (0.62–0.66)         | 0.01 (0.00–0.01)                             | 0.03    | 0.05 (–0.02 to 0.10)  | 0.13    | 0.01 (0.00–0.01) | 0.02    |
| SOFA + PAR   | 0.64 (0.62–0.66)         | 0.00 (0.00–0.00)                             | 0.09    | 0.05 (–0.01 to 0.09)  | 0.09    | 0.00 (0.00–0.01) | 0.22    |
| SOFA + PCR   | 0.64 (0.62–0.66)         | 0.00 (0.00–0.00)                             | <0.001  | –0.06 (–0.14 to 0.17) | 0.55    | 0.00 (0.00–0.01) | 0.45    |
| SOFA + CALLY | 0.64 (0.62–0.66)         | 0.00 (0.00–0.00)                             | 0.06    | 0.01 (–0.10 to 0.12)  | 0.92    | 0.00 (0.00–0.01) | 0.32    |
| SOFA + NAR   | 0.63 (0.61–0.65)         | 0.00 (0.00–0.00)                             | 0.08    | 0.00 (–0.05 to 0.07)  | 0.79    | 0.00 (0.00–0.00) | 0.37    |
| SOFA + LCR   | 0.63 (0.62–0.65)         | 0.00 (0.00–0.00)                             | 0.28    | 0.00 (–0.15 to 0.05)  | 0.98    | 0.00 (0.00–0.01) | 0.24    |
| SOFA + PLR   | 0.63 (0.61–0.65)         | 0.00 (0.00–0.00)                             | 0.93    | 0.05 (0.00 to 0.11)   | 0.05    | 0.00 (0.00–0.01) | 0.007   |
| SOFA + NLR   | 0.63 (0.61–0.65)         | 0.00 (0.01–0.00)                             | <0.001  | –0.05 (–0.08 to 0.10) | 0.94    | 0.00 (0.00–0.00) | 0.94    |
| SOFA + SII   | 0.64 (0.62–0.66)         | 0.00 (0.00–0.01)                             | <0.001  | –0.01 (–0.05 to 0.06) | >0.99   | 0.00 (0.00–0.00) | 0.59    |
| SOFA + IBI   | 0.63 (0.61–0.65)         | 0.00 (0.00–0.00)                             | <0.001  | 0.01 (–0.04 to 0.06)  | 0.67    | 0.00 (0.00–0.00) | >0.99   |
| SOFA + NCS   | 0.64 (0.62–0.66)         | 0.00 (0.00–0.00)                             | 0.003   | 0.02 (–0.05 to 0.08)  | 0.39    | 0.00 (0.00–0.00) | 0.36    |
| SOFA + NPS   | 0.64 (0.62–0.66)         | 0.01 (0.00–0.01)                             | <0.001  | 0.07 (–0.02 to 0.12)  | 0.10    | 0.00 (0.00–0.01) | 0.13    |
| SOFA + LAS   | 0.63 (0.61–0.65)         | 0.00 (0.00–0.00)                             | 0.008   | 0.07 (–0.15 to 0.12)  | 0.68    | 0.00 (0.00–0.01) | 0.65    |

CALLY, C-reactive protein-albumin-lymphocyte index; CAR, C-reactive protein-to-albumin ratio; CI, confidence interval; IBI, inflammatory burden index; IDI, integrated discrimination index; LAS, lymphocyte-albumin score; LCR, lymphocyte-to-C-reactive protein ratio; NAR, neutrophil-to-albumin ratio; NCS, neutrophil-C-reactive protein score; NLR, neutrophil-to-lymphocyte ratio; NPS, neutrophil-platelet score; NRI, net reclassification index; PAR, platelet-to-albumin ratio; PCR, platelet-to-C-reactive protein ratio; PLR, platelet-to-lymphocyte ratio; SII, systemic immune-inflammation index; SOFA, Sequential Organ Failure Assessment.