

**Table S1** Collinearity analysis

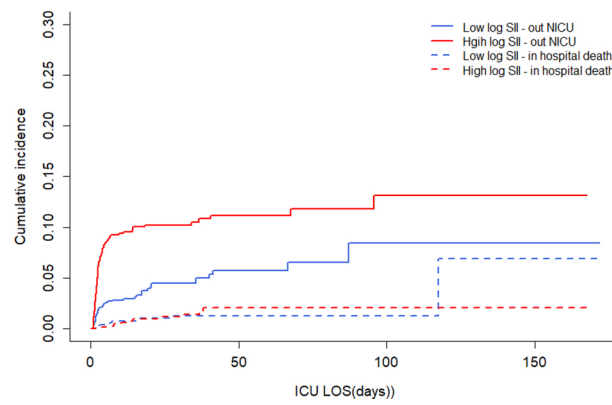
| Variables                  | VIF   |
|----------------------------|-------|
| SOFA                       | 2.837 |
| RBC                        | 2.29  |
| APS-III                    | 2.225 |
| Hemoglobin                 | 1.924 |
| Bilirubin group            | 1.616 |
| Sepsis                     | 1.189 |
| Gestational week <28 weeks | 1.179 |
| logSII                     | 1.121 |
| Heart rate                 | 1.120 |
| Phototherapy               | 1.114 |
| Acidosis                   | 1.108 |

RBC, red blood cell; SII, systemic immune-inflammation index; APS-III, acute physiology score-III; VIF, variance inflation factor.

**Table S2** Multivariate analysis between AKI and logSII

| Predictor                        | OR (95% CI)         | P      |
|----------------------------------|---------------------|--------|
| LogSII                           | 1.230 (1.107–1.369) | <0.001 |
| SOFA                             | 1.114 (1.024–1.210) | 0.011  |
| APS-III                          | 1.029 (1.004–1.056) | 0.026  |
| Sepsis (yes)                     | 1.175 (0.713–1.894) | 0.518  |
| Acidosis (yes)                   | 1.218 (0.646–2.193) | 0.525  |
| Phototherapy (yes)               | 0.610 (0.413–0.913) | 0.014  |
| Gestational week <28 weeks (yes) | 0.687 (0.439–1.098) | 0.108  |
| RBC                              | 0.682 (0.529–0.885) | 0.003  |
| Hemoglobin                       | 1.011 (0.933–1.095) | 0.787  |
| Heart rate                       | 1.003 (0.990–1.016) | 0.709  |
| Bilirubin                        |                     |        |
| (0.2,4.2)                        | ref                 |        |
| (4.3,5.2)                        | 1.016 (0.613–1.669) | 0.950  |
| (5.3,6.2)                        | 0.671 (0.371–1.186) | 0.178  |
| (6.3,18.9)                       | 0.662 (0.361–1.186) | 0.173  |
| Missing                          | 1.556 (0.916–2.670) | 0.105  |

AKI, acute kidney injury; RBC, red blood cell; SII, systemic immune-inflammation index; SOFA, sequential organ failure assessment; APS-III, acute physiology score-III. Note, Bilirubin was divided into 4 equal groups, with the 1st quartile as the reference; Phototherapy, gestational week <28 weeks, acidosis, and sepsis were all based on the “No” group as the reference.



**Figure S1** Cumulative incidence function curves for NICU transfer and in-hospital death stratified by median logSII level. SII, systemic immune-inflammation index; NICU, neonatal intensive care unit.