**Table 2:** Various measures in a simulated study to identify the appropriate threshold where the best value for each measure is boldfaced.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Scenario** | **n** | **THRES 1** | **THRES 2** | **SENS** | **SPEC** | **LRP** | **LRN** | **AALR** | **YOUDEN** | **CS** |
| (a) | 300 | 6.43 | 4.16 | 0.767 | **0.905** | **Inf** | 0.258 | Inf | **0.673** | 0.441 |
|  |  |  | 5.48 | 0.825 | 0.799 | 4.408 | 0.219 | 4.46 | 0.624 | 0.540 |
|  |  |  | **6.43** | 0.873 | 0.703 | 3.030 | 0.181 | **3.842** | 0.577 | **0.576** |
|  |  |  | 7.24 | 0.913 | 0.616 | 2.411 | 0.142 | 4.47 | 0.529 | 0.566 |
|  |  |  | 8.00 | 0.942 | 0.544 | 2.083 | 0.106 | Inf | 0.486 | 0.531 |
|  |  |  | 8.76 | 0.965 | 0.478 | 1.857 | 0.073 | Inf | 0.443 | 0.473 |
|  |  |  | 9.57 | 0.982 | 0.424 | 1.711 | 0.042 | Inf | 0.406 | 0.406 |
|  |  |  | 10.52 | 0.993 | 0.374 | 1.591 | 0.018 | Inf | 0.367 | 0.321 |
|  |  |  | 11.84 | **0.998** | 0.332 | 1.498 | **0.005** | Inf | 0.331 | 0.216 |
|  |  | 8.76 | 4.16 | 0.443 | **0.995** | **Inf** | 0.560 | Inf | 0.438 | 0.267 |
|  |  |  | 5.48 | 0.494 | 0.977 | Inf | 0.518 | Inf | 0.471 | 0.385 |
|  |  |  | 6.43 | 0.554 | 0.954 | Inf | 0.468 | Inf | 0.507 | 0.474 |
|  |  |  | 7.24 | 0.616 | 0.921 | 8.622 | 0.417 | 6.145 | 0.537 | 0.536 |
|  |  |  | 8.00 | 0.682 | 0.882 | 6.169 | 0.36 | 4.499 | 0.565 | 0.576 |
|  |  |  | **8.76** | 0.753 | 0.837 | 4.751 | 0.295 | **3.988** | 0.590 | **0.590** |
|  |  |  | 9.57 | 0.823 | 0.782 | 3.838 | 0.226 | 4.426 | 0.605 | 0.566 |
|  |  |  | 10.52 | 0.895 | 0.723 | 3.267 | 0.146 | Inf | 0.618 | 0.504 |
|  |  |  | 11.84 | **0.959** | 0.663 | 2.865 | **0.063** | Inf | **0.621** | 0.38 |
|  | 600 | 6.43 | 4.16 | 0.767 | **0.906** | **Inf** | 0.258 | Inf | **0.673** | 0.440 |
|  |  |  | 5.48 | 0.825 | 0.801 | 4.286 | 0.219 | 4.354 | 0.626 | 0.547 |
|  |  |  | **6.43** | 0.873 | 0.705 | 3.000 | 0.180 | **3.796** | 0.578 | **0.578** |
|  |  |  | 7.24 | 0.911 | 0.619 | 2.409 | 0.144 | 4.321 | 0.530 | 0.566 |
|  |  |  | 8.00 | 0.942 | 0.544 | 2.074 | 0.106 | 6.052 | 0.486 | 0.530 |
|  |  |  | 8.76 | 0.966 | 0.478 | 1.856 | 0.071 | Inf | 0.444 | 0.474 |
|  |  |  | 9.57 | 0.982 | 0.420 | 1.697 | 0.043 | Inf | 0.402 | 0.402 |
|  |  |  | 10.52 | 0.993 | 0.373 | 1.585 | 0.019 | Inf | 0.366 | 0.32 |
|  |  |  | 11.84 | **0.998** | 0.334 | 1.500 | **0.005** | Inf | 0.332 | 0.217 |
|  |  | 8.76 | 4.16 | 0.444 | **0.994** | **Inf** | 0.559 | Inf | 0.439 | 0.268 |
|  |  |  | 5.48 | 0.495 | 0.978 | **Inf** | 0.516 | Inf | 0.474 | 0.387 |
|  |  |  | 6.43 | 0.552 | 0.954 | 13.649 | 0.470 | 10.197 | 0.506 | 0.473 |
|  |  |  | 7.24 | 0.614 | 0.923 | 8.389 | 0.419 | 5.993 | 0.537 | 0.537 |
|  |  |  | 8.00 | 0.680 | 0.882 | 5.911 | 0.363 | 4.345 | 0.562 | 0.574 |
|  |  |  | **8.76** | 0.754 | 0.834 | 4.602 | 0.295 | **3.903** | 0.588 | **0.587** |
|  |  |  | 9.57 | 0.824 | 0.782 | 3.812 | 0.225 | 4.332 | 0.606 | 0.567 |
|  |  |  | 10.52 | 0.895 | 0.723 | 3.255 | 0.145 | 6.675 | 0.619 | 0.505 |
|  |  |  | 11.84 | **0.959** | 0.662 | 2.848 | **0.061** | Inf | **0.621** | 0.380 |
| (b) | 300 | 26.85 | 22.31 | 0.776 | **0.979** | **Inf** | 0.229 | Inf | **0.755** | 0.495 |
|  |  |  | 24.95 | 0.85 | 0.900 | **Inf** | 0.167 | Inf | 0.750 | 0.654 |
|  |  |  | **26.85** | 0.911 | 0.792 | 4.58 | 0.113 | **5.991** | 0.702 | **0.702** |
|  |  |  | 28.48 | 0.954 | 0.677 | 3.014 | 0.069 | 8.579 | 0.631 | 0.675 |
|  |  |  | 30.00 | 0.979 | 0.579 | 2.346 | 0.037 | Inf | 0.558 | 0.609 |
|  |  |  | 31.52 | 0.992 | 0.495 | 1.976 | 0.015 | Inf | 0.488 | 0.521 |
|  |  |  | 33.15 | 0.998 | 0.429 | 1.754 | 0.005 | Inf | 0.427 | 0.426 |
|  |  |  | 35.05 | 1.000 | 0.374 | 1.602 | 0.000 | Inf | 0.374 | 0.327 |
|  |  |  | 37.69 | **1.000** | 0.331 | 1.498 | **0.000** | Inf | 0.331 | 0.217 |
|  |  | 31.52 | 22.31 | 0.444 | **1.000** | **Inf** | 0.556 | Inf | 0.444 | 0.271 |
|  |  |  | 24.95 | 0.498 | 0.998 | **Inf** | 0.503 | Inf | 0.496 | 0.404 |
|  |  |  | 26.85 | 0.568 | 0.990 | **Inf** | 0.436 | Inf | 0.558 | 0.521 |
|  |  |  | 28.48 | 0.648 | 0.971 | **Inf** | 0.362 | Inf | 0.619 | 0.618 |
|  |  |  | 30.00 | 0.736 | 0.936 | 13.001 | 0.282 | 8.323 | 0.672 | 0.686 |
|  |  |  | **31.52** | 0.827 | 0.885 | 7.557 | 0.196 | **6.220** | 0.712 | **0.712** |
|  |  |  | 33.15 | 0.906 | 0.817 | 5.067 | 0.115 | 8.423 | **0.723** | 0.676 |
|  |  |  | 35.05 | 0.966 | 0.741 | 3.777 | 0.046 | Inf | 0.707 | 0.577 |
|  |  |  | 37.69 | **0.995** | 0.667 | 3.009 | **0.007** | Inf | 0.662 | 0.404 |
|  | 600 | 26.85 | 22.31 | 0.776 | **0.978** | **Inf** | 0.230 | Inf | **0.754** | 0.493 |
|  |  |  | 24.95 | 0.851 | 0.900 | 9.283 | 0.166 | 8.643 | 0.751 | 0.656 |
|  |  |  | **26.85** | 0.911 | 0.792 | 4.484 | 0.112 | **5.877** | 0.703 | **0.703** |
|  |  |  | 28.48 | 0.953 | 0.680 | 3.01 | 0.069 | 7.993 | 0.633 | 0 .677 |
|  |  |  | 30.00 | 0.979 | 0.579 | 2.334 | 0.036 | 18.319 | 0.558 | 0.608 |
|  |  |  | 31.52 | 0.993 | 0.495 | 1.971 | 0.015 | Inf | 0.487 | 0.521 |
|  |  |  | 33.15 | 0.998 | 0.426 | 1.742 | 0.004 | Inf | 0.424 | 0.424 |
|  |  |  | 35.05 | 1.000 | 0.374 | 1.599 | 0.001 | Inf | 0.374 | 0.327 |
|  |  |  | 37.69 | **1.000** | 0.333 | 1.501 | **0.000** | Inf | 0.333 | 0.217 |
|  |  | 31.52 | 22.31 | 0.445 | **1.000** | **Inf** | 0.556 | Inf | 0.444 | 0.271 |
|  |  |  | 24.95 | 0.500 | 0.998 | **Inf** | 0.501 | Inf | 0.498 | 0.406 |
|  |  |  | 26.85 | 0.568 | 0.990 | **Inf** | 0.437 | Inf | 0.558 | 0.522 |
|  |  |  | 28.48 | 0.647 | 0.971 | **Inf** | 0.364 | Inf | 0.618 | 0.618 |
|  |  |  | 30.00 | 0.734 | 0.936 | 12.069 | 0.284 | 7.818 | 0.670 | 0.684 |
|  |  |  | **31.52** | 0.828 | 0.884 | 7.285 | 0.195 | **6.061** | 0.712 | **0.711** |
|  |  |  | 33.15 | 0.907 | 0.817 | 5.011 | 0.114 | 8.058 | **0.724** | 0.677 |
|  |  |  | 35.05 | 0.966 | 0.741 | 3.750 | 0.046 | Inf | 0.707 | 0.577 |
|  |  |  | 37.69 | **0.995** | 0.666 | 2.992 | **0.007** | Inf | 0.661 | 0.405 |