

**Table S1.** Ion concentration and optimal cut-off values for irAEs, ORR ,DCR and PFS

| Variables                     | optimal cut-off value |       |       |       |
|-------------------------------|-----------------------|-------|-------|-------|
|                               | irAEs                 | ORR   | DCR   | PFS   |
| K <sup>+</sup>                | 3.88                  | 4.1   | 3.93  | 3.93  |
| Na <sup>+</sup>               | 142.2                 | 139.1 | 139.4 | 140.3 |
| Cl <sup>-</sup>               | 102.5                 | 101.1 | 101.4 | 104.3 |
| Ca <sup>2+</sup>              | 2.21                  | 2.31  | 2.46  | 2.27  |
| PO <sub>4</sub> <sup>3-</sup> | 1.00                  | 0.93  | 1.03  | 1.02  |
| Mg <sup>2+</sup>              | 0.94                  | 0.93  | 0.87  | 0.76  |