|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Objects** | **Criteria** | **CT** | **ST** | **GT** | ***P*-value**  **(CT vs. GT)** | ***P*-value**  **(ST vs. GT)** | **Objects** | **Criteria** | **CT** | **ST** | **GT** | ***P*-value**  **(CT vs. GT)** | ***P*-value**  **(ST vs. GT)** |
| **PTV** | D98% | 5937.3 | 7348.0 | 7423.0 | 0.01 | 0.11 | **Rectum** | Dmax | 8237.8 | 8177.6 | 8088.8 | 0.001 | 0.01 |
|  | D95% | 6943.3 | 7588.7 | 7619.5 | 0.01 | 0.38 |  | D2% | 8005.2 | 7919.9 | 7906.8 | 0.01 | 0.56 |
|  | D50% | 8029.6 | 8066.0 | 8036.2 | 0.91 | 0.27 |  | Dmean | 4804.6 | 4751.7 | 4753.0 | 0.74 | 0.99 |
|  | D2% | 8368.4 | 8385.4 | 8368.8 | 0.99 | 0.73 |  | V50 | 46.7 | 43.8 | 43.6 | 0.32 | 0.94 |
|  | Dmean | 7883.8 | 8029.9 | 8014.2 | 0.09 | 0.56 |  | V60 | 33.3 | 30.7 | 30.1 | 0.20 | 0.75 |
|  | CN | 0.67 | 0.83 | 0.84 | 0.01 | 0.31 |  | V70 | 20.2 | 18.1 | 17.7 | 0.15 | 0.73 |
|  | HI | 0.17 | 0.09 | 0.08 | 0.01 | 0.29 | **Body** | Dmax | 8595.8 | 8559.7 | 8500.6 | 0.14 | 0.28 |
| **Bladder** | Dmax | 8237.8 | 8177.6 | 8088.8 | 0.43 | 0.42 |  | Dmean | 860.2 | 841.8 | 856.2 | 0.92 | 0.71 |
|  | D2% | 8005.2 | 7919.9 | 7906.8 | 0.08 | 0.13 | **FH\_L** | Dmax | 4148.2 | 4064.0 | 4125.2 | 0.88 | 0.62 |
|  | Dmean | 4804.6 | 4751.7 | 4753.0 | 0.77 | 0.80 |  | Dmean | 1754.0 | 1670.4 | 1648.3 | 0.48 | 0.85 |
|  | V50 | 46.7 | 43.8 | 43.6 | 0.66 | 0.87 | **FH\_R** | Dmax | 4167.4 | 3994.4 | 4020.0 | 0.35 | 0.85 |
|  | V60 | 33.3 | 30.7 | 30.1 | 0.68 | 0.94 |  | Dmean | 1740.6 | 1610.4 | 1609.4 | 0.41 | 0.99 |
|  | V70 | 20.2 | 18.1 | 17.7 | 0.78 | 0.93 |  |  |  |  |  |  |  |

**S2 Table. Statistical results of the evaluated dosimetric parameters in PTV and OARs.**

Value = mean, CT: CT-based prediction model; ST: structure-based prediction model; GT: ground truth; FH\_L: left femoral head; FH\_R: right femoral head; CN: conformation number; HI: homogeneity index.