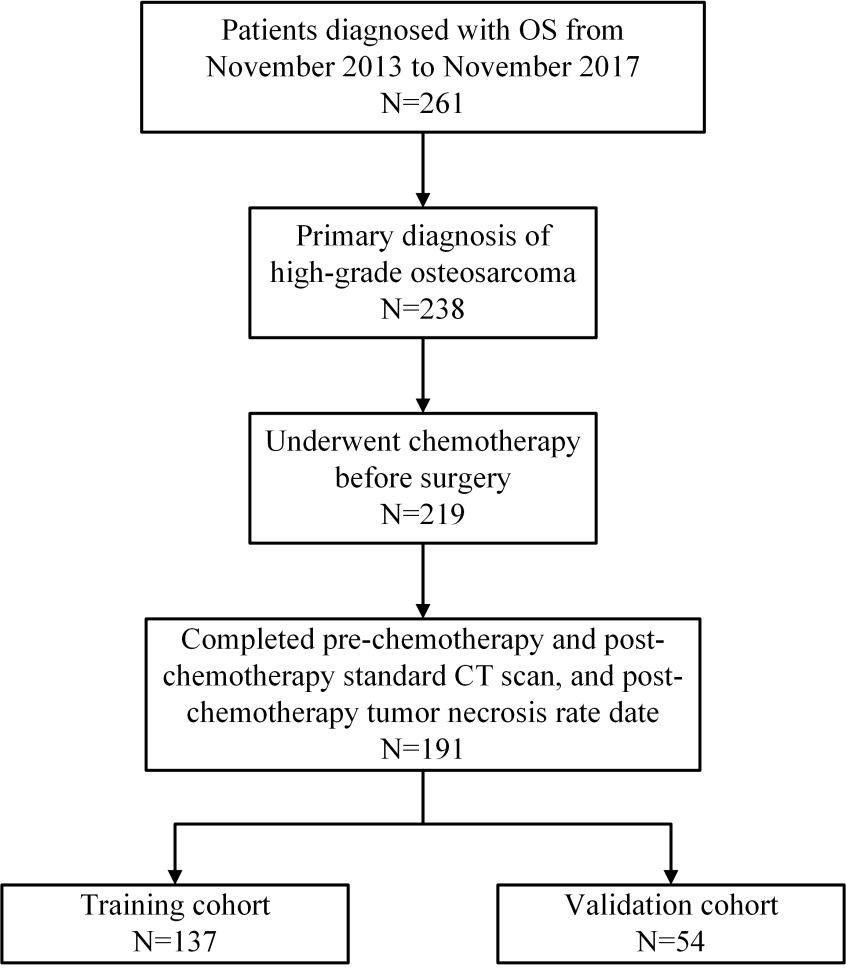
Supplementary Material

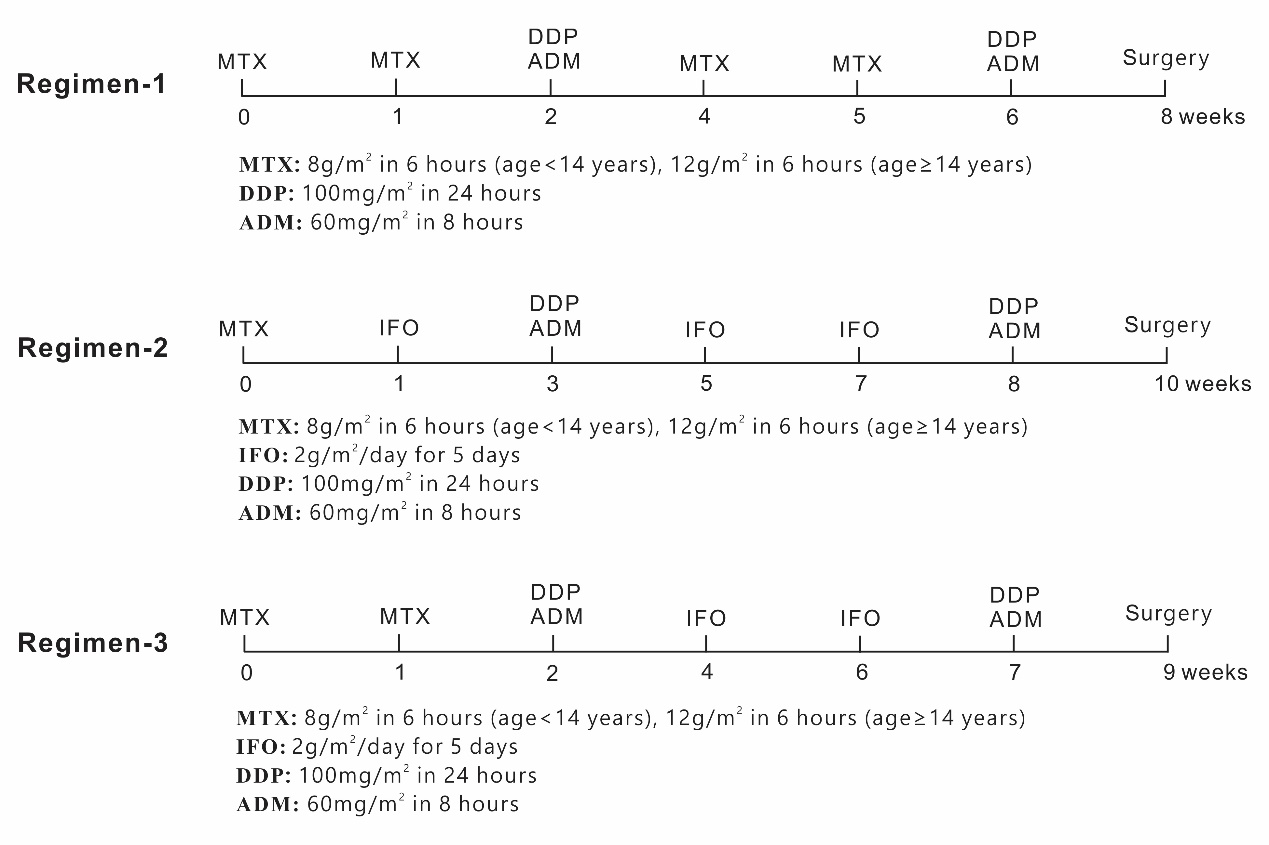
# Supplementary Data

**I. Supplementary Figure S1** Recruitment pathway for patients.



**Figure S1.** Recruitment pathway for patients.

**II. Supplementary Figure S2** Neoadjuvant chemotherapy regimens.

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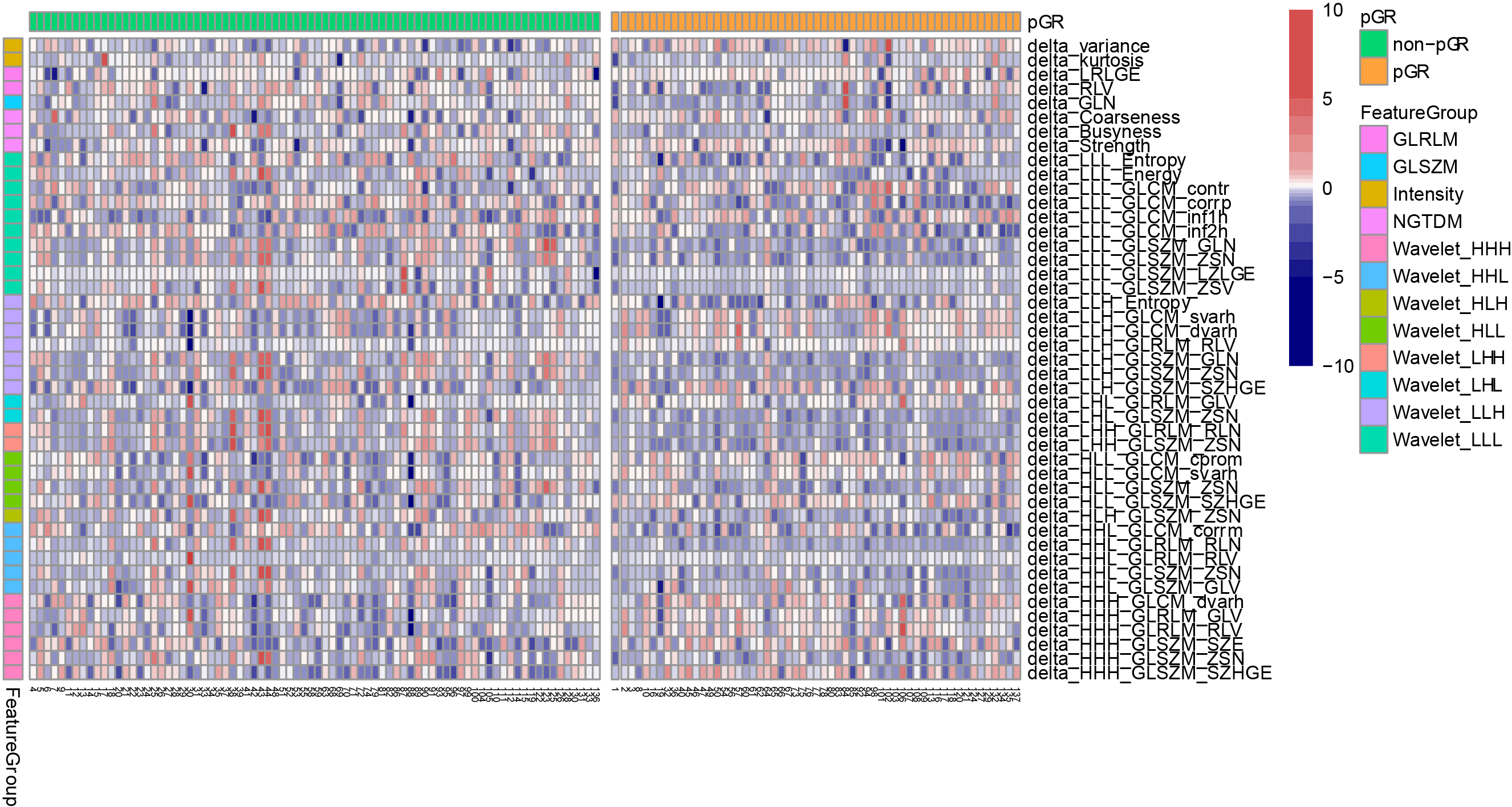
**Figure S2.** Regimens of preoperative treatment protocols of neoadjuvant chemotherapy. MTX: methotrexate; DDP: cisplatin; ADM: doxorubicin; IFO: ifosfamide.

**III. Table S1** Patient characteristics’ distribution in the training and validation datasets

|  |  |  |  |
| --- | --- | --- | --- |
| Characteristics | Training dataset | Validation dataset | p |
| Pathological Response |  |  | 0.6691 |
| pGR | 57 | 25 |  |
| non-pGR | 80 | 29 |  |
| Age |  |  | 0.5363 |
| ≤15 y | 72 | 25 |  |
| >15 y | 65 | 29 |  |
| Gender |  |  | 0.3254 |
| Male | 81 | 27 |  |
| Female | 56 | 27 |  |
| Location of primary tumor |  |  | 0.6721 |
| Humerus | 19 | 6 |  |
| Femur | 72 | 31 |  |
| Tibia and fibula | 37 | 16 |  |
| Radius and ulna | 3 | 0 |  |
| Others | 6 | 1 |  |
| Stage at diagnosis |  |  | 0.5816 |
| Localized | 113 | 47 |  |
| Metastatic | 24 | 7 |  |
| Pathologic subtype |  |  | 0.1567 |
| Osteoblastic | 101 | 39 |  |
| Chondroblastic | 16 | 6 |  |
| Fibroblastic | 8 | 8 |  |
| Telangiectatic | 8 | 1 |  |
| Others | 4 | 0 |  |
| Type of surgery |  |  | 0.315 |
| Limb salvage | 121 | 51 |  |
| Amputation | 16 | 3 |  |
| New pulmonary metastasis |  |  | 0.6821 |
| Yes | 6 | 1 |  |
| No | 131 | 53 |  |
| Chemotherapy regimens |  |  | 0.2597 |
| 1MTX, DDP and ADM | 100 | 39 |  |
| 2MTX, IFO,DDP and ADM | 27 | 14 |  |
| 3MTX,IFO, DDP and ADM | 10 | 1 |  |

Note: Individual clinical factors were analyzed for significant differences using a chi-square test. P < 0.05 indicates a significant difference.

**IV. Supplementary Figure S3** Heatmap for radiomic features.

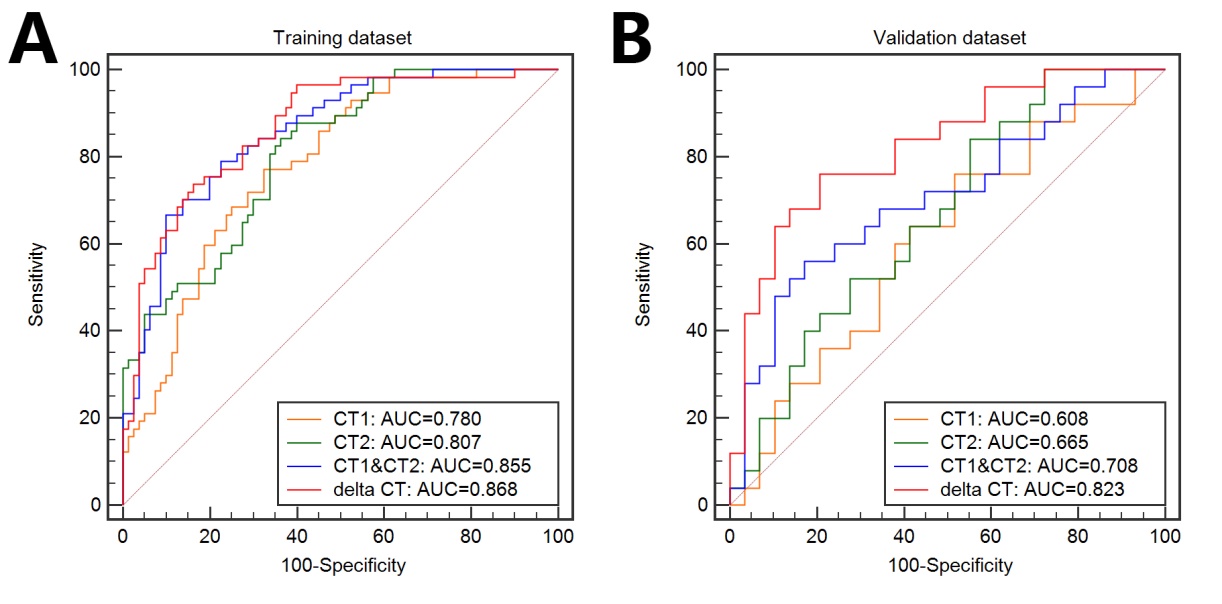


**Figure S3.** Heatmap for instructive radiomic features in the training set. The x-axis indicates different patients. The y-axis indicates different radiomics features. The color in the box shows the expression level of radiomic features.

**V. Table S2:** Interclass correlation coefficient (ICC) values of selected delta-radiomic features in the intra-observer and inter-observer reproducibility test.

|  |  |  |
| --- | --- | --- |
| Feature Name | ICC in  Intra-observer Test | ICC in  Inter-observer Test |
| △variance | 0.998 | 0.997 |
| △LLL\_GLCM\_corrp | 0.990 | 0.983 |
| △LLH\_Entropy | 0.984 | 0.934 |
| △LLH\_GLSZM\_GLN | 0.996 | 0.992 |
| △LHH\_GLSZM\_ZSN | 0.945 | 0.962 |
| △HHL\_GLCM\_corrm | 0.801 | 0.806 |
| △HHH\_GLSZM\_SZE | 0.926 | 0.926 |
| △HHH\_GLSZM\_SZHGE | 0.891 | 0.926 |

**VI. Supplementary Figure S4** The predictive performance of the radiomic signatures from four kinds of data.

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**Supplementary Figure S4.** The predictive performance of the radiomic signature from four kinds of data for each patient in training (A) and validation (B) sets (AUC, area under curve).