**One\_std:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **特征类数** | **2kind** | | | | **3kind** | | | | **4kind** | | | |
| **模型和AUC值** | Model | train | Val | Test | Model | train | Val | Test | Model | train | Val | Test |
| **平扫期** | Lrl3 | 0.833 | 0.823 | 0.828 | **Lrl2** | **0.848** | **0.837** | **0.819** | Lrl1 | 0.825 | 0.817 | 0.799 |
| **动脉期** | Lrl1 | 0.841 | 0.830 | 0.844 | **Lrl14** | **0.895** | **0.857** | **0.821** | Lrl1 | 0.848 | 0.836 | 0.844 |
| **静脉期** | Lrl1 | 0.794 | 0.791 | 0.876 | **Lrl1** | **0.794** | **0.791** | **0.876** | Lrl1 | 0.792 | 0.788 | 0.826 |

**lasso**

**RF**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **特征类数** | **2kind** | | | | **3kind** | | | | **4kind** | | | |
| **模型和AUC值** | Model | train | Val | Test | Model | train | Val | Test | Model | train | Val | Test |
| **平扫期** | **Rf10** | **1.000** | **0.851** | **0.880** | Rf11 | 1.000 | 0.850 | 0.891 | Rf4 | 1.000 | 0.789 | 0.861 |
| **动脉期** | Rf3 | 1.000 | 0.820 | 0.792 | Rf5 | 1.000 | 0.833 | 0.824 | **Rf6** | **1.000** | **0.835** | **0.788** |
| **静脉期** | Rf2 | 1.000 | 0.748 | 0.759 | Rf5 | 1.000 | 0.784 | 0.825 | **Rf12** | **1.000** | **0.788** | **0.805** |

**Lr:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **特征类数** | **2kind** | | | | **3kind** | | | | **4kind** | | | |
| **模型和AUC值** | Model | train | Val | Test | Model | train | Val | Test | Model | train | Val | Test |
| **平扫期** | Lr6 | 0.847 | 0.819 | 0.790 | **Lr2** | **0.847** | **0.837** | **0.817** | Lr1 | 0.824 | 0.814 | 0.799 |
| **动脉期** | Lr1 | 0.842 | 0.830 | 0.844 | Lr1 | 0.842 | 0.830 | 0.844 | **Lr1** | **0.847** | **0.835** | **0.844** |
| **静脉期** | **Lr1** | **0.794** | **0.789** | **0.876** | Lr1 | 0.794 | 0.789 | 0.876 | Lr1 | 0.792 | 0.789 | 0.826 |

**Svm:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **特征类数** | **2kind** | | | | **3kind** | | | | **4kind** | | | |
| **模型和AUC值** | Model | train | Val | Test | Model | train | Val | Test | Model | train | Val | Test |
| **平扫期** | Svm2 | 0.830 | 0.812 | 0.837 | **Svm3** | **0.848** | **0.837** | **0.862** | Svm1 | 0.824 | 0.814 | 0.799 |
| **动脉期** | Svm1 | 0.842 | 0.829 | 0.844 | Svm1 | 0.842 | 0.829 | 0.844 | **Svm1** | **0.847** | **0.833** | **0.844** |
| **静脉期** | **Svm1** | **0.793** | **0.788** | **0.876** | Svm1 | 0.793 | 0.788 | 0.876 | Svm1 | 0.792 | 0.787 | 0.826 |

**Best:**

**Rf:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **特征类数** | **2kind** | | | | **3kind** | | | | **4kind** | | | |
| **模型和AUC值** | Model | train | Val | Test | Model | train | Val | Test | Model | train | Val | Test |
| **平扫期** | Rf14 | 1.000 | 0.863 | 0.914 | **Rf18** | **1.000** | **0.867** | **0.925** | Rf19 | 1.000 | 0.815 | 0.846 |
| **动脉期** | Rf11 | 1.000 | 0.854 | 0.753 | Rf9 | 1.000 | 0.856 | 0.804 | **Rf20** | **1.000** | **0.863** | **0.847** |
| **静脉期** | Rf6 | 1.000 | 0.786 | 0.847 | Rf10 | 1.000 | 0.812 | 0.904 | **Rf20** | **1.000** | **0.820** | **0.844** |

**Lr:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **特征类数** | **2kind** | | | | **3kind** | | | | **4kind** | | | |
| **模型和AUC值** | Model | train | Val | Test | Model | train | Val | Test | Model | train | Val | Test |
| **平扫期** | Lr10 | 0.889 | 0.854 | 0.853 | **Lr15** | **0.896** | **0.857** | **0.839** | Lr18 | 0.881 | 0.843 | 0.803 |
| **动脉期** | Lr4 | 0.866 | 0.845 | 0.817 | **Lr17** | **0.898** | **0.856** | **0.817** | Lr2 | 0.855 | 0.841 | 0.855 |
| **静脉期** | Lr3 | 0.803 | 0.794 | 0.857 | **Lr13** | **0.843** | **0.802** | **0.867** | Lr6 | 0.821 | 0.792 | 0.837 |

**Svm:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **特征类数** | **2kind** | | | | **3kind** | | | | **4kind** | | | |
| **模型和AUC值** | Model | train | Val | Test | Model | train | Val | Test | Model | train | Val | Test |
| **平扫期** | 11 | 0.886 | 0.847 | 0.846 | **19** | **0.912** | **0.869** | **0.862** | 19 | 0.887 | 0.845 | 0.824 |
| **动脉期** | 13 | 0.888 | 0.843 | 0.801 | **19** | **0.917** | **0.859** | **0.765** | 4 | 0.854 | 0.842 | 0.855 |
| **静脉期** | 8 | 0.814 | 0.784 | 0.880 | 13 | 0.858 | 0.794 | 0.862 | **6** | **0.821** | **0.801** | **0.830** |