***Table S1*** ***Comparison of General Characteristics***

|  |  |  |  |
| --- | --- | --- | --- |
|  | **The Testing Part** |  | **The Validation Part** |
| **PMC** | **BPN** | **PLC** | **HPG** |  | **PLC** | **HPG** |
| Sample Size | 16 | 32 | 80 | 48 |  | 80 | 48 |
| Gender(M/F) | 12:4 | 24:8 | 57:23 | 35:13 |  | 52:28 | 36:12 |
| Age | 55.2±8.9 | 56.3±8.9 | 55.0±9.2 | 53.2±9.2 |  | 55.4±7.9 | 50.7±9.2 |

***Table S2 General Characteristics of Primary Lung Cancer in Testing and Validation Part***

|  |  |  |  |
| --- | --- | --- | --- |
|  | **PLC in Testing Part****（n=80）** | **PLC in Validation Part****（n=80）** | ***P* value** |
| Smoking HistoryNoYes | 47（58.8%）33（41.2%） | 47（58.8%）33（41.2%） | 1.000 |
| ComorbidityNoneHypertensionType 2 DiabetesBothHepatitisOthers | 53（66.3%）18（22.4%）4（5.0%）2（2.5%）3（3.8%）0（0%） | 53（66.3%）16（20.0%）1（1.3%）4（5.0%）4（5.0%）2（2.5%） | 0.450 |
| History of MalignancyNoneRectal CancerThyroid CancerLung CancerColon CancerBreast CancerOvarian CancerEndometrial CancerBladder Cancer | 72（90.0%）1（1.3%）1（1.3%）3（3.8%）1（1.3%）2（2.5%）0（0%）0（0%）0（0%） | 73（91.3%）0（0%）1（1.3%）2（2.5%）0（0%）1（1.3%）1（1.3%）1（1.3%）1（1.3%） | 0.699 |
| Neoadjuvant TherapyNoneChemotherapyChemo-immunotherapyTargeted Therapy | 76（95.0%）3（3.8%）1（1.3%）0（0%） | 77（96.3%）2（2.5%）0（0%）1（1.3%） | 0.531 |
| Pathological TypesAdenocarcinomaSquamous CarcinomaSmall Cell Lung CancerCarcinoidCarcinosarcomaLarge Cell Lung Cancer | 67（83.8%）8（10.0%）2（2.5%）2（2.5%）0（0%）1（1.3%） | 64（80.0%）12（15.0%）2（2.5%）1（1.3%）1（1.3%）0（0%） | 0.669 |
| Pathological Stage Stage 0Stage IStage IIStage III Stage IV | 12（15.0%）47（58.8%）7（8.8%）12（15.0%）2（2.5%） | 9（11.3%）56（70.0%）3（3.8%）11（13.8%）1（1.3%） | 0.526 |

***Table S3 Feature Parameters of Comparisons among Groups Based on OPLS-DA Model***

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Four****Groups** | **PMC vs****HPG** | **BPN vs****HPG** | **PLC vs****HPG** | **Three****Groups** | **PLC vs****BPN** | **PMC vs****BPN** | **PMC vs****PLC** |
| R2X | 0.540 | 0.638 | 0.564 | 0.607 | 0.533 | 0.525 | 0.654 | 0.531 |
| R2Y | 0.624 | 0.983 | 0.968 | 0.957 | 0.704 | 0.907 | 0.956 | 0.976 |
| Q2 | 0.598 | 0.939 | 0.947 | 0.938 | 0.625 | 0.849 | 0.787 | 0.949 |