**Supplementary Table 8. Basic information about giant pandas sampled in this experiment.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Name | Gender | Age(year) | Sampling year | Diet | Illness | Group |
| JB | female | 1.5 | 2019 | milk, bamboo shoots, carrot, apple, liquid calcium |  | Young |
| BB | female | 2 | 2019 | milk, steamde corn-bread, bamboo shoots, carrot, apple, bamboo, liquid calcium |  |
| 1.5 | 2018 | milk, bamboo shoots, carrot, apple, liquid calcium |  |
| BC | male | 2 | 2019 | milk, steamde corn-bread, bamboo shoots, carrot, apple, bamboo, liquid calcium |  |
| 1.5 | 2018 | milk, bamboo shoots, carrot, apple, liquid calcium |  |
| 1.5 | 2018 | milk, bamboo shoots, carrot, apple, liquid calcium |  |
| FB |  | 3 | 2019 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
| male | 2 | 2018 | milk, steamde corn-bread, bamboo shoots, carrot, apple, bamboo, liquid calcium |  |
|  | 1.5 | 2017 | milk, bamboo shoots, carrot, apple, liquid calcium |  |
| JM | female | 3 | 2019 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
| 2 | 2018 | milk, steamde corn-bread, bamboo shoots, carrot, apple, bamboo, liquid calcium |  |
| 1.5 | 2017 | milk, bamboo shoots, carrot, apple, liquid calcium |  |
| MM | male | 1.5 | 2019 | milk, bamboo shoots, carrot, apple, liquid calcium |  |
| NN | female | 3 | 2018 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
| 2 | 2017 | milk, steamde corn-bread, bamboo shoots, carrot, apple, bamboo, liquid calcium |  |
| 1.5 | 2018 | milk, bamboo shoots, carrot, apple, liquid calcium |  |
| PY | female | 3 | 2018 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
| 2 | 2017 | milk, steamde corn-bread, bamboo shoots, carrot, apple, bamboo, liquid calcium |  |
| 1.5 | 2018 | milk, bamboo shoots, carrot, apple, liquid calcium |  |
| QQ | male | 3 | 2019 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
| 2 | 2018 | milk, steamde corn-bread, bamboo shoots, carrot, apple, bamboo, liquid calcium |  |
| RY | male | 2 | 2019 | milk, steamde corn-bread, bamboo shoots, carrot, apple, bamboo, liquid calcium |  |
| 1.5 | 2018 | milk, bamboo shoots, carrot, apple, liquid calcium |  |
| YX | male | 3 | 2019 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
| 2 | 2018 | milk, bamboo shoots, carrot, apple, liquid calcium |  |
| YH | female | 3 | 2019 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
| 2 | 2018 | milk, steamde corn-bread, bamboo shoots, carrot, apple, bamboo, liquid calcium |  |
| 1.5 | 2017 | milk, bamboo shoots, carrot, apple, liquid calcium |  |
| HH | male | 7 | 2019 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  | Adult |
| LL | male | 9 | 2019 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
| TS |  | 13 | 2019 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
| male | 12 | 2018 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
|  | 11 | 2017 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
| WW | male | 13 | 2018 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
| 12 | 2017 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
| YM | female | 15 | 2019 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
| 14 | 2018 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
| YY2 | male | 16 | 2019 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
| 15 | 2018 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
| ZJ |  | 18 | 2018 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
| male | 19 | 2019 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
| 17 | 2017 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
| DL |  | 19 | 2017 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals | amputation |
| male | 20 | 2018 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals | amputation | Old |
|  | 21 | 2019 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals | amputation |
| YP | female | 23 | 2019 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals | hypertension |
| 22 | 2018 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals | hypertension |
| 21 | 2017 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals | hypertension |
| YY | female | 27 | 2018 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
| 28 | 2019 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
| YY3 |  | 27 | 2019 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals | hypertension |
| female | 26 | 2018 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals | hypertension |
|  | 25 | 2017 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals | hypertension |
| ZX | female | 22 | 2018 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals | cataract, hypertension |
| HZ | female | 23 | 2018 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
| 22 | 2017 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
| QY | female | 27 | 2018 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
| 26 | 2017 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
| SL |  | 23 | 2019 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals | hypertension |
| female | 21 | 2017 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals | hypertension |
|  | 22 | 2018 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals | hypertension |
| XM |  | 27 | 2018 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
| male | 28 | 2019 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
|  | 26 | 2017 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
| DD | male | 24 | 2019 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals | hypertension |
| 23 | 2018 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals | hypertension |
| 22 | 2017 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals | hypertension |
| FF | female | 22 | 2018 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |
| 21 | 2017 | steamed corn-bread, bamboo, carrot, apple, bamboo shoots, multivitamin formula with minerals |  |