**TABLE A1**

 **Genetic distances generated from the SSR marker analysis of sweetpotato germplasm (1-24) in this study.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Code | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 1 | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | 0.748 | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | 0.680 | 0.687 | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | 0.693 | 0.700 | 0.680 | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | 0.836 | 0.789 | 0.653 | 0.707 | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | 0.727 | 0.707 | 0.687 | 0.693 | 0.687 | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | 0.707 | 0.673 | 0.619 | 0.680 | 0.632 | 0.680 | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | 0.693 | 0.700 | 0.680 | 0.761 | 0.707 | 0.761 | 0.680 | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 | 0.693 | 0.700 | 0.612 | 0.653 | 0.734 | 0.605 | 0.687 | 0.687 | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10 | 0.680 | 0.646 | 0.632 | 0.653 | 0.666 | 0.707 | 0.666 | 0.653 | 0.646 | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 | 0.714 | 0.741 | 0.680 | 0.693 | 0.755 | 0.727 | 0.632 | 0.707 | 0.700 | 0.721 | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | 0.680 | 0.673 | 0.659 | 0.673 | 0.680 | 0.823 | 0.619 | 0.687 | 0.659 | 0.734 | 0.734 | 1 |  |  |  |  |  |  |  |  |  |  |  |  |
| 13 | 0.653 | 0.687 | 0.625 | 0.646 | 0.707 | 0.673 | 0.653 | 0.687 | 0.700 | 0.605 | 0.666 | 0.646 | 1 |  |  |  |  |  |  |  |  |  |  |  |
| 14 | 0.632 | 0.693 | 0.714 | 0.721 | 0.687 | 0.687 | 0.605 | 0.707 | 0.687 | 0.748 | 0.782 | 0.727 | 0.680 | 1 |  |  |  |  |  |  |  |  |  |  |
| 15 | 0.721 | 0.768 | 0.632 | 0.646 | 0.761 | 0.680 | 0.612 | 0.673 | 0.646 | 0.680 | 0.721 | 0.700 | 0.680 | 0.727 | 1 |  |  |  |  |  |  |  |  |  |
| 16 | 0.721 | 0.693 | 0.673 | 0.659 | 0.707 | 0.707 | 0.605 | 0.646 | 0.632 | 0.687 | 0.680 | 0.727 | 0.632 | 0.734 | 0.748 | 1 |  |  |  |  |  |  |  |  |
| 17 | 0.680 | 0.700 | 0.659 | 0.653 | 0.680 | 0.714 | 0.666 | 0.673 | 0.700 | 0.734 | 0.687 | 0.693 | 0.646 | 0.687 | 0.632 | 0.687 | 1 |  |  |  |  |  |  |  |
| 18 | 0.714 | 0.673 | 0.666 | 0.714 | 0.659 | 0.714 | 0.673 | 0.680 | 0.639 | 0.707 | 0.673 | 0.741 | 0.666 | 0.673 | 0.659 | 0.789 | 0.802 | 1 |  |  |  |  |  |  |
| 19 | 0.707 | 0.666 | 0.612 | 0.639 | 0.632 | 0.680 | 0.693 | 0.639 | 0.653 | 0.639 | 0.659 | 0.653 | 0.639 | 0.632 | 0.619 | 0.680 | 0.700 | 0.782 | 1 |  |  |  |  |  |
| 20 | 0.700 | 0.687 | 0.659 | 0.673 | 0.687 | 0.687 | 0.666 | 0.714 | 0.700 | 0.666 | 0.714 | 0.639 | 0.734 | 0.659 | 0.646 | 0.693 | 0.653 | 0.687 | 0.659 | 1 |  |  |  |  |
| 21 | 0.680 | 0.714 | 0.632 | 0.673 | 0.680 | 0.707 | 0.721 | 0.687 | 0.714 | 0.721 | 0.693 | 0.659 | 0.687 | 0.653 | 0.673 | 0.700 | 0.795 | 0.761 | 0.761 | 0.714 | 1 |  |  |  |
| 22 | 0.714 | 0.714 | 0.632 | 0.666 | 0.741 | 0.687 | 0.659 | 0.693 | 0.666 | 0.653 | 0.653 | 0.673 | 0.639 | 0.653 | 0.673 | 0.680 | 0.680 | 0.653 | 0.619 | 0.659 | 0.693 | 1 |  |  |
| 23 | 0.714 | 0.680 | 0.646 | 0.659 | 0.673 | 0.700 | 0.680 | 0.734 | 0.653 | 0.700 | 0.687 | 0.666 | 0.666 | 0.687 | 0.673 | 0.721 | 0.666 | 0.700 | 0.659 | 0.870 | 0.707 | 0.659 | 1 |  |
| 24 | 0.755 | 0.707 | 0.680 | 0.727 | 0.741 | 0.748 | 0.666 | 0.700 | 0.659 | 0.653 | 0.714 | 0.700 | 0.625 | 0.646 | 0.693 | 0.700 | 0.666 | 0.714 | 0.687 | 0.741 | 0.721 | 0.734 | 0.755 | 1 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Code | Variety | Code | Variety | Code | Variety | Code | Variety |
| 1 | Guangshu87 | 7 | Simon1 | 13 | Xinnianggao | 19 | Wulixiang |
| 2 | Jishu26 | 8 | Au-1 | 14 | Longshu515 | 20 | Dayehong |
| 3 | Xinong431 | 9 | Taiwanziyang | 15 | Guijingzi8 | 21 | Zheshu75 |
| 4 | Shangshu19 | 10 | AU-2 | 16 | Guicai1 | 22 | Tianeshu |
| 5 | Pushu32 | 11 | Ziluolan | 17 | Qinshu8 | 23 | Fushu18 |
| 6 | Longshu9 | 12 | Yizi138 | 18 | AU-3 | 24 | Qinshu5 |

**FIGURE A1.** Characteristics of SSRs in the sweet potato genome.

**a.** Distribution of different repeat types

**b.** Frequency distribution of major repeat motifs. The different colours show the different motif types.

**c.** Frequency distribution of main motif sequence in **I.** Dinucleotide, **II**. Trinucleotide and **III.** Tetranucleotide repeats.

**c.**