

**Supplementary Table S1 qRT-PCR test reaction system**

| <b>Reactant</b>                                       | <b>concentration</b> | <b>volume (μL)</b> |
|---|----------------------|--------------------|
| <b>ChamQ Universal SYBR<br/>Color qPCR Master Mix</b> | 2X                   | 10                 |
| <b>Primers-F</b>                                      | 10μM                 | 0.4                |
| <b>Primers-R</b>                                      | 10μM                 | 0.4                |
| <b>Template (cDNA)</b>                                |                      | 2                  |

**Supplementary Table S2 Primers used for qRT-PCR**

| <b>Gene</b>         | <b>Accession No.</b>  | <b>Forward primer</b>    | <b>Reverse primer</b>        |
|---------------------|-----------------------|--------------------------|------------------------------|
| <b><i>FRO</i></b>   | <i>Solyc04g071610</i> | GGAGCCAGAGAAAATCAGTG     | CGAAGCCATAGGAGTTGC           |
| <b><i>IRT2</i></b>  | <i>Solyc02g069190</i> | AATCCAGAAACTGGTGGTGCTG   | GAAAAGTATACACGATTACAATTTTGC  |
| <b><i>FRD3</i></b>  | <i>Solyc11g013440</i> | TCCATTGGGGTGTCAGTGGTG    | CTGCGTTGTGCCTAATCGTGC        |
| <b><i>IRT1</i></b>  | <i>Solyc02g069200</i> | TGGCTGTGGCTGGAAATCATGTTC | AGAATTTTTTTTGCAACTCCCAATAGGT |
| <b><i>Fer</i></b>   | <i>Solyc12g008740</i> | TGTTTTTCCGCAGCCAATG      | TGCCAAAGTTTATGTCCACCTCA      |
| <b><i>SUS</i></b>   | <i>Solyc12g009300</i> | GAAAGAGGATGGGGAAACACT    | AAGGATGCGAGGGACGATA          |
| <b><i>Actin</i></b> | <i>Solyc03g078400</i> | ACCACTGAGCACAATGTTACCG   | GTCTCTTCCAGCCATCCA           |

**Supplementary Table S3 Effects of exogenous Spd on tomato root morphological indexes under low iron stress**

| <b>Treatment</b> | <b>Total root length<br/>/cm</b> | <b>Total root surface area<br/>/cm<sup>2</sup></b> | <b>Average diameter<br/>/mm</b> | <b>Total root volume<br/>/cm<sup>3</sup></b> |
|------------------|----------------------------------|--|---------------------------------|--|
| <b>CK</b>        | 313.34±15.33a                    | 61.52±9.55a  | 0.68±0.02b                      | 1.21±0.14a                                   |
| <b>LF</b>        | 129.20±17.52c                    | 34.49±4.18d  | 0.85±0.05a                      | 0.66±0.04d                                   |
| <b>Spd</b>       | 322.80±43.19a                    | 58.94±7.31b  | 0.64±0.08c                      | 1.11±0.15ab                                  |
| <b>LF+Spd</b>    | 230.79±49.10b                    | 48.75±8.67c  | 0.68±0.09b                      | 0.93±0.04c                                   |

Supplementary Table S4. Effects of Spd on enzyme activities related to sucrose metabolism in tomato leaves under low iron stress

| Treatments | AI (U g <sup>-1</sup> FW) |               |               | NI (U g <sup>-1</sup> FW) |             |             | SS (U g <sup>-1</sup> FW) |                 |                 | SPS (U g <sup>-1</sup> FW) |                |                |
|------------|---------------------------|---------------|---------------|---------------------------|-------------|-------------|---------------------------|-----------------|-----------------|----------------------------|----------------|----------------|
|            | 5 d                       | 10 d          | 15 d          | 5 d                       | 10 d        | 15 d        | 5 d                       | 10 d            | 15 d            | 5 d                        | 10 d           | 15 d           |
| CK         | 259.59±17.44a             | 158.79±11.61b | 170.69±2.67c  | 63.01±4.85b               | 43.18±1.74c | 23.10±1.12b | 2584.24±220.20b           | 2943.75±177.86b | 1907.59±150.15a | 170.60±39.17b              | 384.55±13.20a  | 558.77±21.51a  |
| LF         | 203.64±17.28b             | 236.39±27.81a | 219.75±22.08a | 98.63±6.77a               | 48.96±0.98b | 16.85±1.08c | 2046.53±131.33c           | 1901.43±206.80d | 2081.98±255.59b | 106.19±14.44c              | 348.74±19.70b  | 508.58±13.97bc |
| Spd        | 198.05±8.88bc             | 148.75±16.27b | 192.46±2.88b  | 50.74±2.31c               | 42.34±0.39c | 28.16±1.76a | 3738.05±84.11a            | 3447.18±103.87a | 3638.46±86.19c  | 111.85±13.45c              | 372.78±7.68ab  | 543.14±27.63ab |
| LF+Spd     | 172.14±14.64c             | 163.53±10.63b | 93.60±5.42d   | 51.90±0.45c               | 55.70±1.47a | 23.20±1.20b | 2542.83±52.77b            | 2542.02±147.01c | 2789.34±134.18c | 381.92±37.72a              | 378.15±18.62ab | 502.27±6.09c   |