

**Additional file 2.** Position and pattern of introns within the basic and hinge regions of bZIP domains of the peanut bZIP transcription factors.

| Group | bZIP No. | Basic and hinge regions |                            | Pattern (a - d) of intron phase in Figure 2 |
|-------|----------|-------------------------|----------------------------|---------------------------------------------|
|       |          | intron insertion site   |                            |                                             |
| A     | AdbZIP13 | QGIDRKQK                | MAKNRESAAKSRAKKQAYIEKL     | a                                           |
|       | AdbZIP29 | KTVERRQK                | RMKNRESAARSRAKKQAYTQEL     |                                             |
|       | AdbZIP33 | VVVERRQRR               | MLKNRESAARSRAARRQAYTVEL    |                                             |
|       | AdbZIP39 | KAAQQRQRR               | MIKNRESAARSREKQAYQVEL      |                                             |
|       | AdbZIP42 | KVVERRQRR               | MIKNRESAARSRAKKQAYTFEL     |                                             |
|       | AdbZIP48 | KTVERRQK                | RMKNRESAARSRAKKQAYTTEL     |                                             |
|       | AdbZIP2  | RICENISK                | RMKNRESAARSRAKKQAYTHEL     |                                             |
|       | AibZIP12 | KATLQKQRR               | MIKNRESAARSREKQAYTTDL      |                                             |
|       | AibZIP2  | RICENISK                | RMKNRESAARSRAKKQAYTHEL     |                                             |
|       | AibZIP23 | KTVERRQK                | RMKNRESAARSRAKKQAYTQEL     |                                             |
|       | AibZIP28 | VVVERRQRR               | MLKNRESAARSRAARRQAYTVEL    |                                             |
|       | AibZIP31 | KAAQQRQRR               | MIKNRESAARSREKQAYQVEL      |                                             |
|       | AibZIP35 | KVVERRQRR               | MIKNRESAARSRAKKQAYTFEL     |                                             |
|       | AibZIP43 | KTVERRQK                | RMKNRESAARSRAKKQAYTTEL     |                                             |
|       | AibZIP33 | KASLQKQRR               | MIKNRESAARSREKQAYTLEL      |                                             |
| B     | AdbZIP45 | DDDEKR                  | KARLMRNRESAQLSRQRKKHYVEEL  | d                                           |
|       | AibZIP40 | DDDEKR                  | KARLMRNRESAQLSRQRKKHYVEEL  |                                             |
| C     | AdbZIP23 | PTDAKR                  | VRRMLSNRESARRSRRRKQAHLTEL  | c                                           |
|       | AdbZIP30 | PIDMKR                  | LRRKVSNNRESARRSRRRKQAYLTDL |                                             |
|       | AdbZIP37 | PADVCR                  | VRRMLSNRESARRSRRRKQAHLNEL  |                                             |
|       | AdbZIP44 | PVDVCR                  | LRRKESNNRESARRSRRRKQAHLADL |                                             |
|       | AibZIP24 | MKR                     | LRRKVSNNRESARRSRRRKQAYLTDL |                                             |
|       | AibZIP30 | PADVCR                  | VRRMLSNRESARRSRRRKQAHLNEL  |                                             |
|       | AibZIP39 | PVDVCR                  | LRRKESNNRESARRSRRRKQAHLADL |                                             |
| D     | AdbZIP20 | AVDQK                   | TMRRLAQNREAARKSRLRKKAYVQQL | b                                           |
|       | AdbZIP25 | KADQK                   | TLRRLAQNREAARKSRLRKKAYVQQL |                                             |
|       | AdbZIP34 | PLDAK                   | TLRRLAQNREAARKSRLRKKAYVQQL |                                             |
|       | AdbZIP35 | KTDQK                   | SLRRLAQNREAARKSRLRKKAYVQQL |                                             |
|       | AdbZIP38 | HEDQK                   | TLRRLAQNREAARKSRLRKKAYVQQL |                                             |
|       | AdbZIP40 | KPIDK                   | IQRRLAQNREAARKSRLRKKAYVQQL |                                             |
|       | AdbZIP8  | TPDPK                   | TLRRLAQNREAARKSRLRKKAYVQQL |                                             |
|       | AdbZIP9  | AVDAK                   | TLRRLAQNREAARKSRLRKKAYVQQL |                                             |
|       | AibZIP18 | AVDQK                   | TMRRLAQNREAARKSRLRKKAYVQQL |                                             |
|       | AibZIP20 | KADQK                   | TLRRLAQNREAARKSRLRKKAYVQQL |                                             |
|       | AibZIP29 | PLDAK                   | TLRRLAQNREAARKSRLRKKAYVQQL |                                             |
|       | AibZIP34 | KPVDK                   | IQRRLAQNREAARKSRLRKKAYVQQL |                                             |
|       | AibZIP44 | KTDQK                   | TLRRLAQNREAARKSRLRKKAYVQQL |                                             |
|       | AibZIP8  | TPDPK                   | TLRRLAQNREAARKSRLRKKAYVQQL |                                             |
|       | AibZIP9  | AVDAK                   | TLRRLAQNREAARKSRLRKKAYVQQL |                                             |
| G     | AdbZIP15 | NVTRDRKENS              | LNRELARRSRLRKQAECEEL       | a                                           |
|       | AdbZIP17 | ERELKRQRR               | KQSNRESARRSRLRKQAECDEL     |                                             |
|       | AdbZIP19 | ERELKRQKR               | KQSNRESARRSRLRKQAECEEL     |                                             |
|       | AdbZIP4  | ERELKRERR               | KQSNRDSARRSRLRKQAETEEL     |                                             |
|       | AdbZIP49 | NDEIRKERKRL             | SNRESAKRSRLRKQKECEEL       |                                             |
|       | AdbZIP50 | ERDLKRQKR               | KQSNRESARKSRLRKQAECEEL     |                                             |
|       | AdbZIP6  | ERELKRERR               | KQSNRESARRSRLRKQAEAEEL     |                                             |
|       | AdbZIP7  | ERDLKRQKR               | KQSNRESARKSRLRKQAECEEL     |                                             |
|       | AibZIP15 | ERELKRQRR               | KQSNRESARRSRLRKQAECDEL     |                                             |
|       | AibZIP17 | ERELKRQKR               | KQSNRESARRSRLRKQAECEEL     |                                             |
|       | AibZIP21 | ERDLKRQKR               | KQSNRESARRSRLRKQAECEDL     |                                             |
|       | AibZIP38 | ERDLKRQKR               | KQSNRESARRSRLRKQAECEDL     |                                             |
|       | AibZIP4  | ERELKRERR               | KQSNRDSARRSRLRKQAETEEL     |                                             |
|       | AibZIP45 | NDEIRKERKRL             | SNRESAKRSRLRKQKECEEL       |                                             |
|       | AibZIP6  | ERELKRERR               | KQSNRESARRSRLRKQAEAEEL     |                                             |
| H     | AdbZIP14 | DKEYRR                  | LKRLLRNRVSAQQARERKKVYVNDL  | c                                           |
|       | AdbZIP41 | DKENKR                  | LKRLLRNRVSAQQARERKKAYLIDL  |                                             |
|       | AdbZIP47 | DKENKR                  | LKRLLRNRVSAQQARERKKAYLIDL  |                                             |
|       | AibZIP36 | DKENKR                  | LKRLLRNRVSAQQARERKKAYLIDL  |                                             |
|       | AibZIP42 | DKENKR                  | LKRLLRNRVSAQQARERKKAYLIDL  |                                             |
| I     | AdbZIP1  | TIDPKR                  | AKRILANRQSAARSKERKARYIQEL  | c                                           |
|       | AdbZIP11 | MMDPKR                  | AKRILANRQSAARSKERKMRYISEL  |                                             |
|       | AdbZIP22 | TIDPKR                  | AKRILANRQSDTRSKERKARYIQEL  |                                             |
|       | AdbZIP27 | MADPKR                  | AKRILANRVSAARSKERKTRYISEL  |                                             |
|       | AdbZIP32 | TIDPKR                  | AKRILANRQSAARSKERKARYIQEL  |                                             |
|       | AdbZIP43 | TVDPKR                  | AKRILANRKSAAASKERRACYVVEL  |                                             |
|       | AibZIP11 | MMDPKR                  | AKRILANRQSAARSKERKMRYISEL  |                                             |
|       | AibZIP19 | MADPKR                  | AKRILANRVSAARSKERKTRYISEL  |                                             |
|       | AibZIP26 | TIDLKR                  | AKRILANRQSAHASKERKACYIQEL  |                                             |
|       | AibZIP3  | TIDPKR                  | AKRILANRQSAARSKERKARYIQEL  |                                             |
|       | AibZIP32 | TIDPKR                  | AKRILANRQSAARSKERKARYIQEL  |                                             |
|       | AibZIP37 | TVDPKR                  | AKRILANRKSAAASKERRACYVVEL  |                                             |
| S     | AdbZIP10 | LMDQRKRKR               | MISNRESARRSRMRKQKHLDDL     | d                                           |
|       | AdbZIP12 | IMDQRKRKR               | MQSNRESARRSRMRKQQHLDL      |                                             |
|       | AdbZIP16 | ILNERKHRR               | MISNRESARRSRMRKQKHLDEL     |                                             |
|       | AdbZIP18 | VMNERKRRR               | KISNRESARRSRMRKQRHLENL     |                                             |
|       | AdbZIP21 | VIDERKQRR               | MISNRESARRSRMRKQKHLDEL     |                                             |
|       | AdbZIP24 | VLDERKRRK               | MLSNRESARRSRMRKQKQLEDL     |                                             |
|       | AdbZIP26 | LMDQKKRKR               | KQSNRESARRSRMRKQKHLDDL     |                                             |
|       | AdbZIP3  |                         | MISNRESARRSRMRKQKHLDEL     |                                             |
|       | AdbZIP31 | SSHERKIRR               | KQSNRESARRSRWRKKRHLENL     |                                             |
|       | AdbZIP36 | VMDERKRRK               | MLSNRESARRSRMRKQKQLEDL     |                                             |
|       | AdbZIP46 | LINERKHRR               | MISNRESARRSRMRKQRHLDL      |                                             |
|       | AdbZIP5  | VIDERKRRR               | MLSNRESARRSRMRKQRHLENL     |                                             |
|       | AibZIP1  | IIDERRQRR               | MISNRESARRSRMRKQKHLDEL     |                                             |
|       | AibZIP10 | LMDQRKRKR               | MISNRESARRSRMRKQKHLDDL     |                                             |
|       | AibZIP13 | TMDQRKRKR               | MQSNRESARRSRMRKQQHLDL      |                                             |
|       | AibZIP14 | ILNERKHRR               | MISNRESARRSRMRKQKHLDEL     |                                             |
|       | AibZIP16 | VMDERKRRR               | KISNRESARRSRMRKQRHLENL     |                                             |
|       | AibZIP25 | STHERKIRR               | KQSNRESARRSRWRKKRHLENL     |                                             |
|       | AibZIP27 | SSEERKLRR               | MQSNRESARRSRGRKKKHMENL     |                                             |
|       | AibZIP41 | LINERKHRR               | MISNRESARRSRMRKQRHLDL      |                                             |
|       | AibZIP5  | VIDERKRRR               | MLSNRESARRSRMRKQRHLENL     |                                             |
| U     | AdbZIP28 | EKEARRIRR               | ILANRESARQTIRRRQALCEDL     | a                                           |
|       | AibZIP22 | EKEARRIRR               | ILANRESARQTIRRRQALCEDL     |                                             |
|       | AibZIP7  | EPVSKK                  | LLRKMRNRDAAARSREKTKYVKDL   | c                                           |