

**Figure S4:** Unrooted phylogenetic tree illustrating the molecular diversity and genetic relationships among 24 cultivated (*desi* and *kabuli*) and wild chickpea accessions based on Nei's genetic distance coefficient using 6254 genome/gene-derived informative InDel markers. The molecular clustering pattern differentiated all these accessions into two major *desi* and *kabuli* groups as expected according to their known cultivar-specific origination and pedigree relationships. One wild *C. reticulatum* accession (ICC 17160) clustered distinctly within a *desi* cultivar group.