**Table 1.** Initial distributions used in the ABC-BCD scheme. Justification for these values is given in Appendix A. U(l,u) denotes a uniform distribution with lower and upper bounds l and u.

**Table 2.** Parameter estimates from the ABC-related and gradient matching (GM) schemes fitted to reference data with no measurement error. (See Appendix B (a) for estimates at the end of each round of the ABC-related scheme.)

**Table S1.** Parameter estimates after each ECM-related round of the ABC optimization scheme applied to the main reference dataset.

**Table S2.** Parameter estimates after each MDE and ECM-related round of the ABC optimization scheme applied to the main reference dataset.

**Table S3.** Parameter estimates after each Tumour cells & MDE & ECM-related round of the ABC optimization scheme applied to the main reference dataset.

**Table S4.** Parameter estimates of two additional runs of the ABC-related scheme applied to the main reference dataset, and the estimated Monte Carlo errors. (Monte Carlo error is calculated as the standard error of the three (one original and two additional) estimates.)

**Table S5.** Parameter estimates and percentage error of the ABC-related scheme applied to two additional reference data sets.