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|  | In-house Custom-Made Tissue Weigher Robot | Custom-Made MultiTasker II |
| Capacity of 2mL tubes | 96 | 532 |
| Capacity of 7mL tubes | 96 | 342 |
| Process hands-on time: uncapping, bead addition, recapping | 6 tubes per minute | 0 minutes |
| Pre-weighing Process Time | 2 tubes per minute | 2 tubes per minute |
| Post-Weighing Process Time | 1 tube per minute | 1 tube per 1.5 minutes |
| Capacity | Pre-weigh\* Post-weigh\*\* Diluent addition | Barcode scanning Pre-weigh Post-weigh Uncapping and recapping Bead addition Diluent addition |
| Flexibility | 1 study at a time | Multiple studies (with the same dilution factor) at a time |
| Error Risk(s) | Manual steps of loading in the correct order, un-capping and re-capping, and solid bead addition possible sources of errors | Cap holding station possible source of contamination; all issues with the In-house Tissue Weigher removed |
| Impact | Slow with manual interventions | Fast, all-in-one process without manual intervention |

**Table S1. Tissue homogenization capacity before and after the implementation of the custom-made tissue weigher robot MultiTasker II.**

\*Pre-weigh: Tissue sample tubes that are labeled with the relevant study information and barcoded are initially weighed to record the empty tube weight (Pre-weigh); \*\*Post-weigh: Tissue samples have been collected into the appropriate tube and the instrument references the barcode to find the empty weight and do a “Post-weigh” to calculate the weight of the tissue sample