Without batch effects (a) Batch 1 Batch 2 CI Batch, 3 With batch effects added (b) Batch 1 Batch 2 CI Zero-centered per batch (c) Batch 2 Batch 1 Batch 3 CI **ANOVA** centered values (d) Batch 3 Batch 1 Batch 2 CI With batch effects added, ANOVA estimates Batch⁺3 ₊× (e) Batch 2 Batch 1 Ismeans