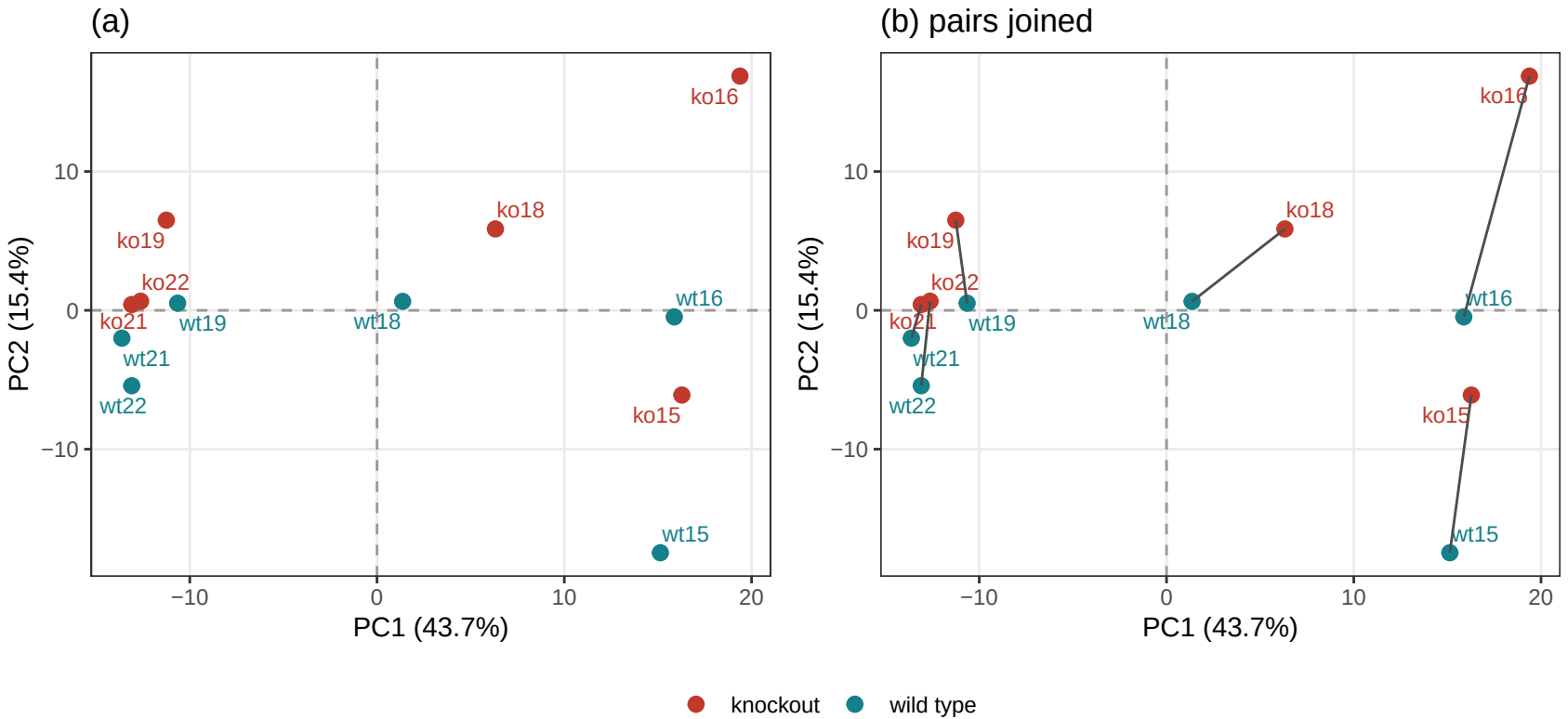

(a)
(b) pairs joined
PC2 (15.4%)
PC1 (43.7%)
10
0
−10
−10
0
10
20
ko16
ko18
ko19
ko22
ko21
wt16
wt19
wt18
wt21
wt22
ko15
wt15
knockout
wild type