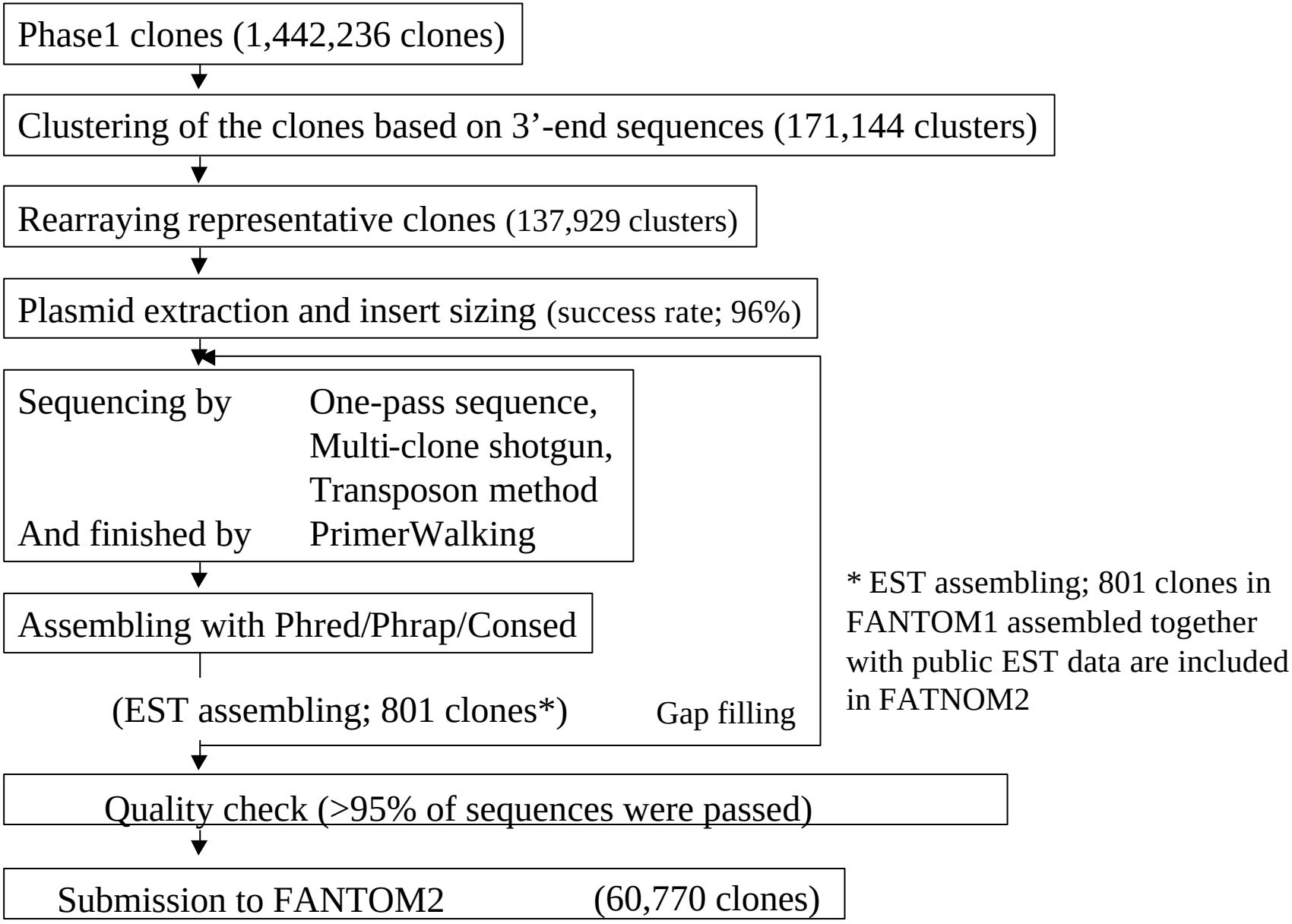Supplementary Information 2