

$$b_j \mid \pi, U \sim \sum_k \pi_k N_R(0, U_k)$$

$$b_j^t = [b_{\text{liver}}^t b_{\text{lung}}^t b_{\text{brain}}^t b_{\text{thyroid}}^t]$$

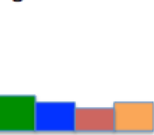
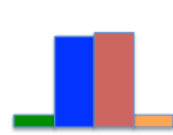
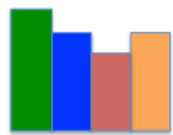


rs123-gene1

rs456-gene2

rs789-gene3

rs369-gene4



Pattern 1  $\rightarrow U_1$

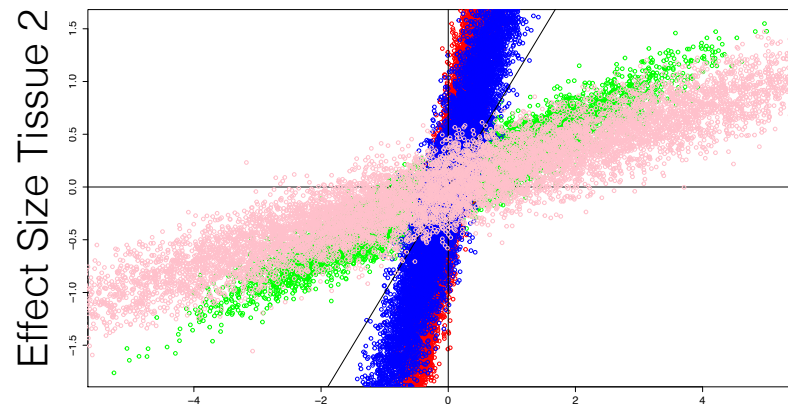
Pattern 2  $\rightarrow U_2$

Pattern 3  $\rightarrow U_3$

Pattern 1  $\rightarrow U_1$

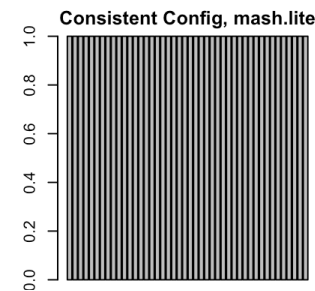
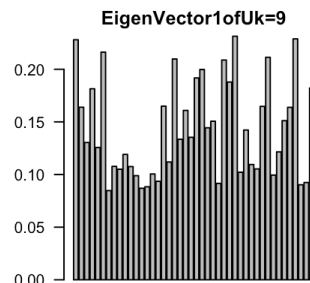
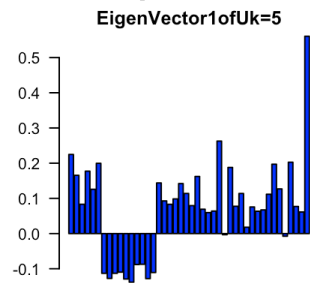
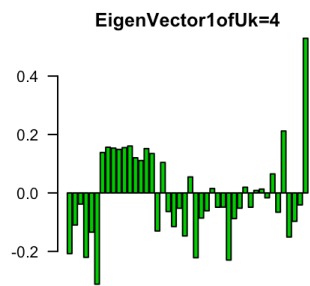
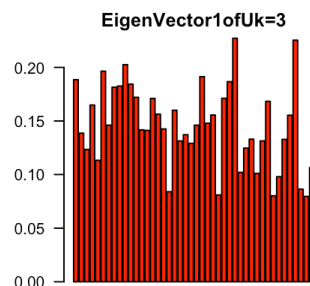
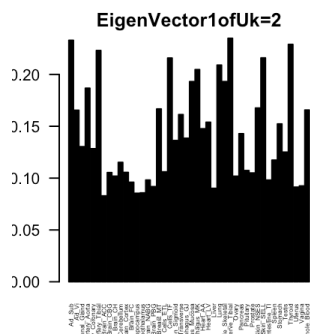
$U_k = \text{small}$

## A. Patterns of Sharing



## B. Effect Size Tissue 1

## C.



Patterns from Real Data