



p_1 : fraction of sig1 that is DE

p_{1up} : fraction of sig1 that is upregulated DE

p_2 : fraction of sig2 that is upregulated

p_{2up} : fraction of sig2 that is upregulated DE

p_{same} : fraction DE sig1 and sig2 same direction

p_{diff} : fraction DE sig1 and sig2 in diff direction

$$\left\{ \begin{array}{l} p_{same} + p_{diff} \leq 1 \end{array} \right.$$

