SNPs (G), DNA methylation (M) and RNA expression (E) are independent

(1.6) Binary: G is causal
(1.7) Binary: G and M are causal
(1.8) Binary: G, M and E are causal

Permute y

(1.5) Binary: null

Same X

(1.2) Continuous: G is causal
(1.3) Continuous: G and M are causal
(1.4) Continuous: G, M and E are causal

(A)

SNPs (G) and RNA expression (E) are correlated

(2.5) Binary: G is causal
(2.6) Binary: G and M are causal

Permute y

(2.4) Binary: null
(2.2) Continuous: G is causal
(2.3) Continuous: G and M are causal

Same X

(2.1) Continuous: null

(B)