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graph TD; Start(( )) --> Step1[Candidate regulator sets of  $v_j-t_{(p+1)} \leftarrow$   
 $\text{Powerset}(\{v_i-t_p : (v_i, v_j) \in \text{Edgeset}(\mathcal{G}_{CLR})\})$ ]; Step1 --> Step2[Find out a regulator set with the maximum BIC score by  
computing the scores of all candidate regulator sets, using data  
 $\mathcal{D}_{(v; \{t_p, t_{(p+1)}\}; S)}$  with the Bene algorithm.]; Step2 --> Step3[Once the regulator set is finalized, for each node in it, add an  
edge in  $\mathcal{G}$  (Figure 1, main paper) from that node to  $v_j-t_{(p+1)}$ .]; Step3 --> Step4[ $j \leftarrow (j + 1)$   
(next gene, if any)]; Step4 --> End(( ))
```

Candidate regulator sets of  $v_j-t_{(p+1)} \leftarrow$   
 $\text{Powerset}(\{v_i-t_p : (v_i, v_j) \in \text{Edgeset}(\mathcal{G}_{CLR})\})$

Find out a regulator set with the maximum BIC score by  
computing the scores of all candidate regulator sets, using data  
 $\mathcal{D}_{(v; \{t_p, t_{(p+1)}\}; S)}$  with the *Bene* algorithm.

Once the regulator set is finalized, for each node in it, add an  
edge in  $\mathcal{G}$  (Figure 1, main paper) from that node to  $v_j-t_{(p+1)}$ .

$j \leftarrow (j + 1)$   
(next gene, if any)