

**Supplementary Table S1. Hyperparameter values in the final GBDT model when using  $\mu$ HEM algorithm**

#top-ranked miRNA	Hyperparameter	Value
330	$max_{depth}$	3
	$n_{tree}$	700
	$min_{split}$	15
	$min_{sample}$	1
	<i>learning rate</i>	0.01