

## 1. table

$\alpha$	$m = 10$				$m = 100$			
	0%	5%	10%	20%	0%	5%	10%	20%
GGL	88	18	16	16	65	15	15	15
Tukey-iGGL	88	80	76	73	65	64	64	60

Table 1: Graph detect rates ( $\times 100$ ) for Gaussian graph learning (GGL) and Tukey-iGGL on outlier-contaminated Gaussian data with the contamination percentages  $\alpha = 0\%, 5\%, 10\%, 20\%$ .

## 2. Algorithm

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### Algorithm 1: disjoint decomposition

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**input** : A bitmap  $Im$  of size  $w \times l$

**output**: A partition of the bitmap

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1 special treatment of the first line;
2 for  $i \leftarrow 2$  to  $l$  do
3   special treatment of the first element of line  $i$ ;
4   for  $j \leftarrow 2$  to  $w$  do
5      $\text{left} \leftarrow \text{FindCompress}(Im[i, j - 1]);$ 
6      $\text{up} \leftarrow \text{FindCompress}(Im[i - 1, j]);$ 
7      $\text{this} \leftarrow \text{FindCompress}(Im[i, j]);$ 
8     if  $\text{left}$  compatible with this then //  $O(\text{left}, \text{this}) == 1$ 
9       if  $\text{left} < \text{this}$  then  $\text{Union}(\text{left}, \text{this});$ 
10      else  $\text{Union}(\text{this}, \text{left});$ 
11    end
12    if  $\text{up}$  compatible with this then //  $O(\text{up}, \text{this}) == 1$ 
13      if  $\text{up} < \text{this}$  then  $\text{Union}(\text{up}, \text{this});$ 
14      // this is put under up to keep tree as flat as
        possible
15      else  $\text{Union}(\text{this}, \text{up});$ 
16      // this linked to up
17    end
18  endfor
19  foreach element  $e$  of the line  $i$  do  $\text{FindCompress}(p);$ 
20 endfor
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