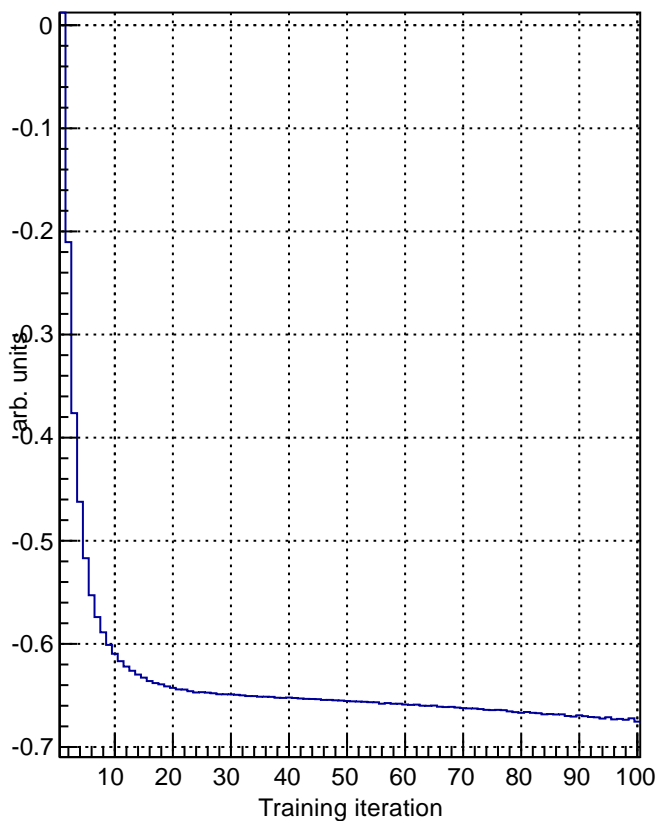
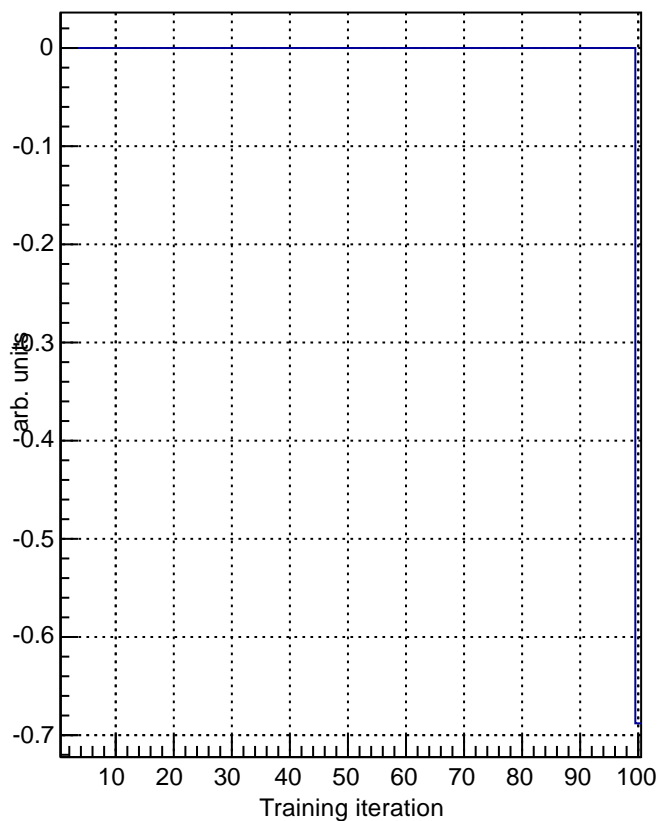


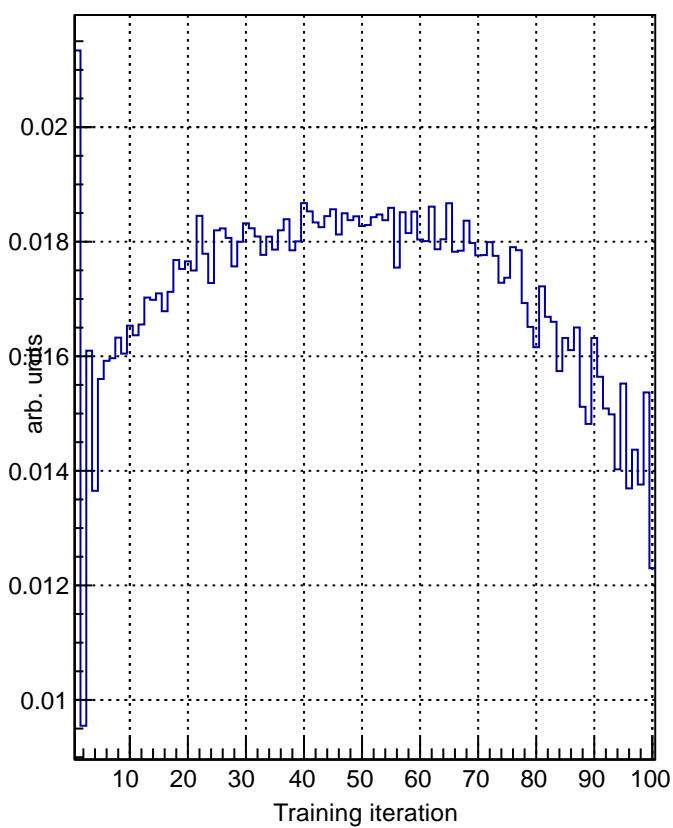
Error



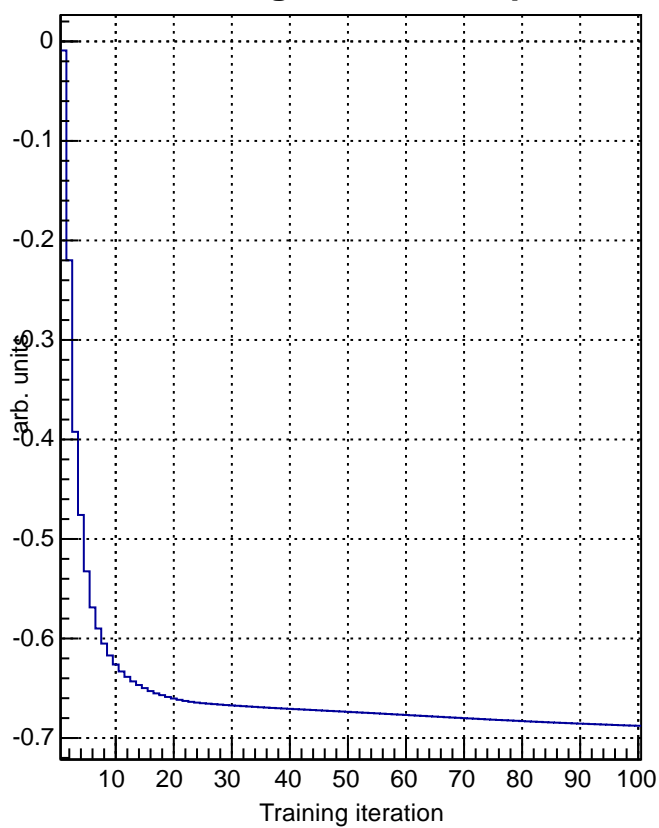
Error Testsample



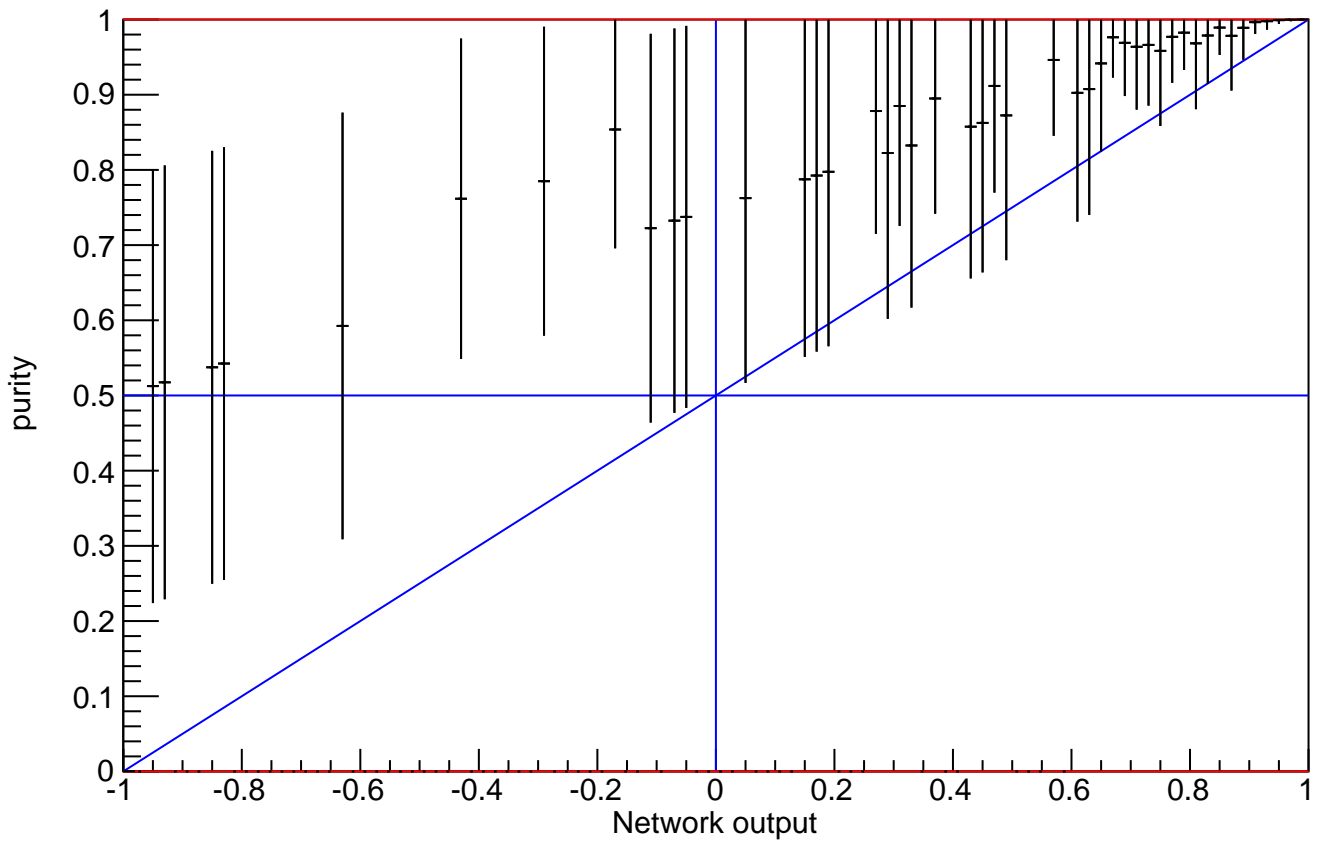
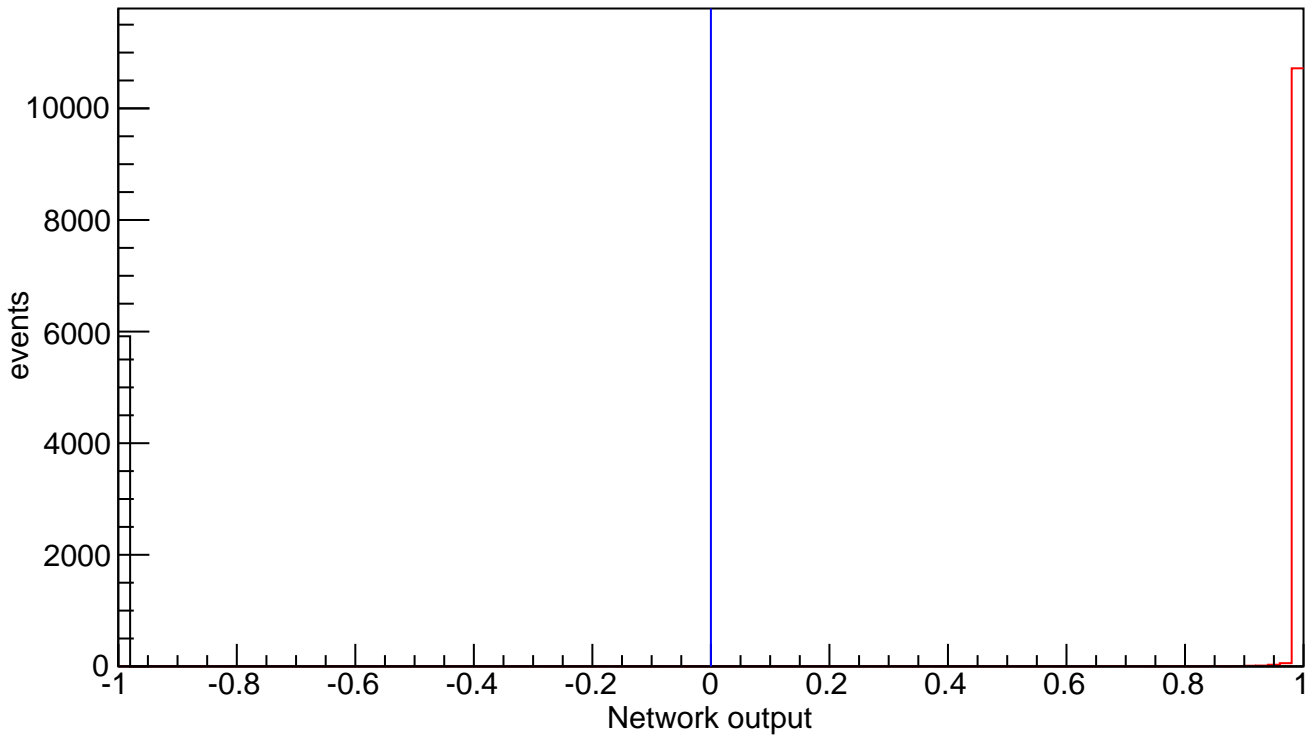
regularisation param. \* weights

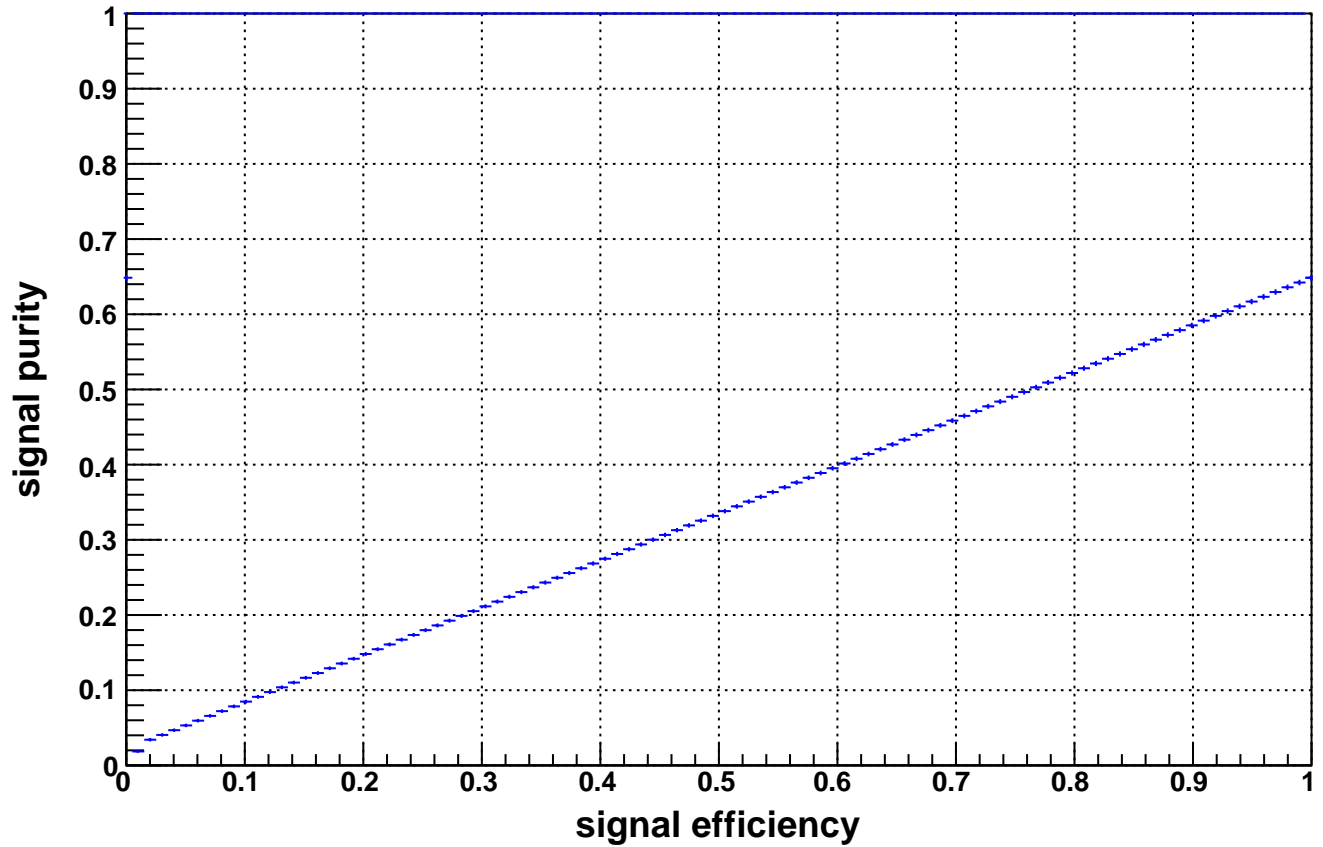


Err-Weight Learnsample

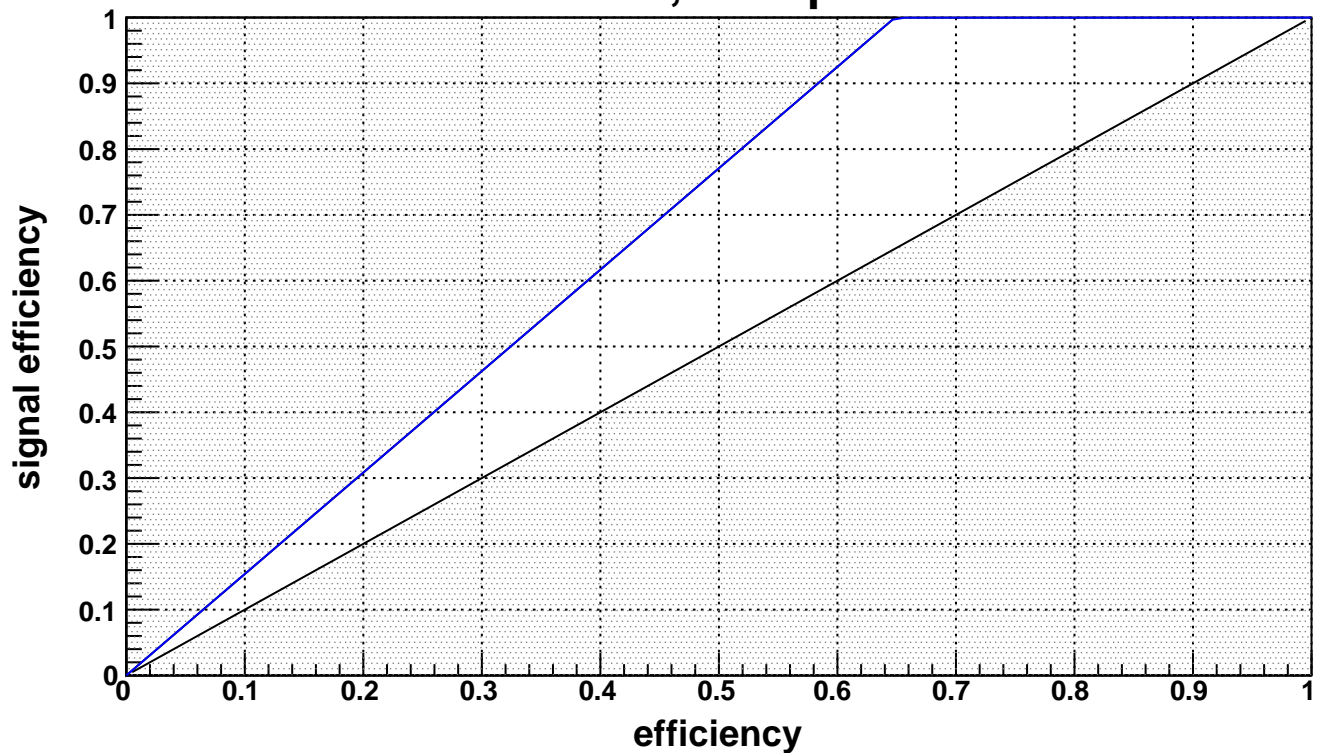


Output Node 1 (n = 16835 s = 10919 b = 5916  $p_{\text{sig}} = 0.6486$ )

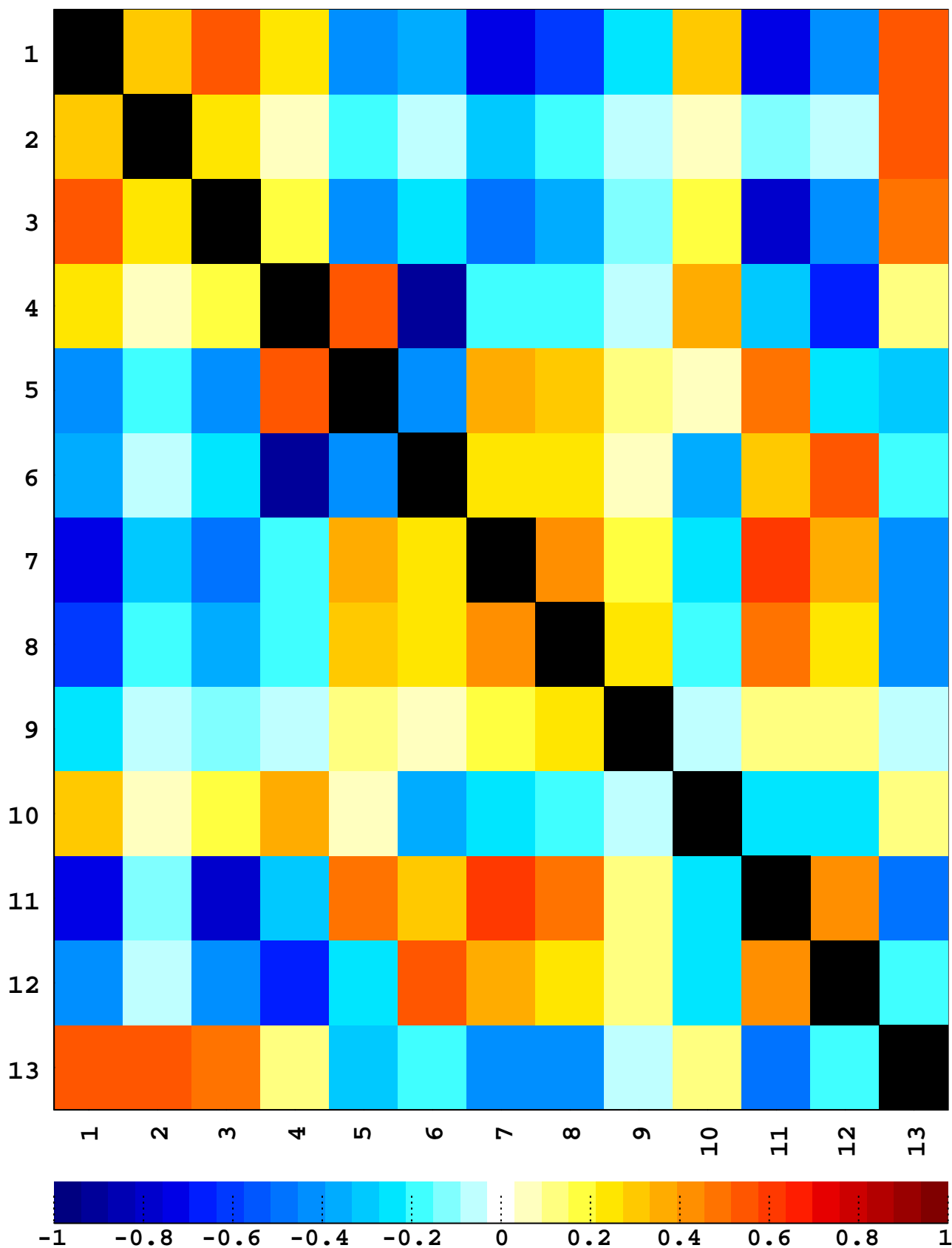




**Gini index = 36.1%, max possible = 35.1%**



## correlation matrix of input variables



**signi. loss 18.23**

**corr. to others 90.30%**

# Phi-T

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Input node 6 : jeta1eta2

2nd most important

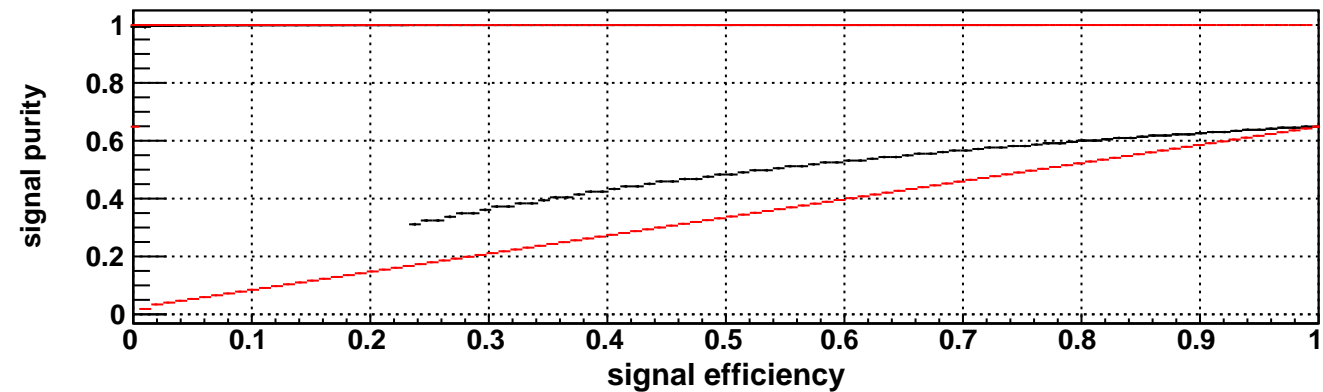
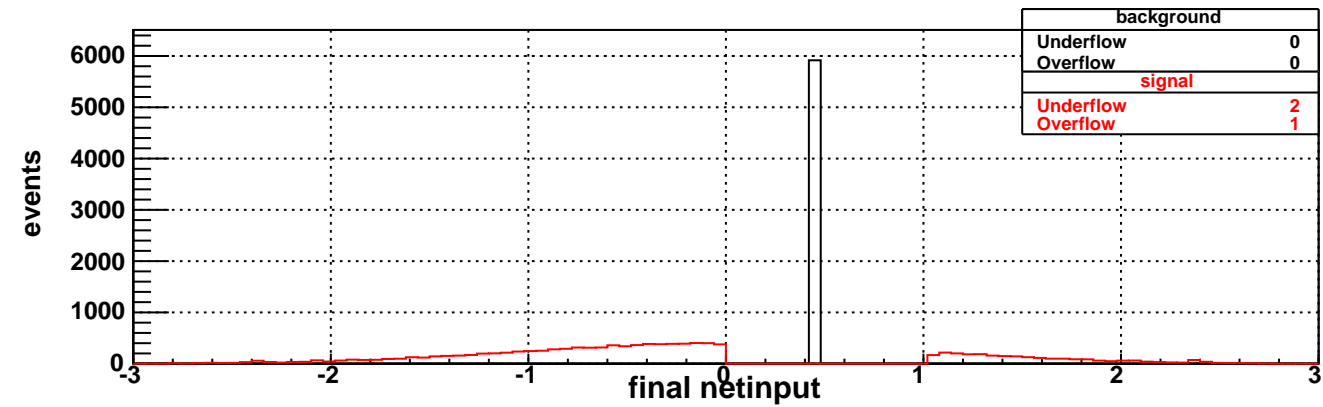
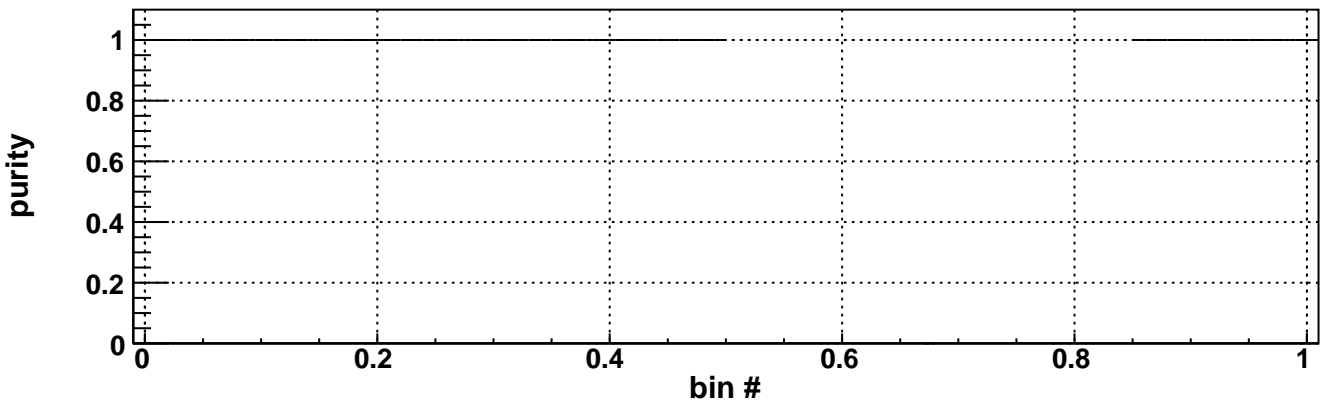
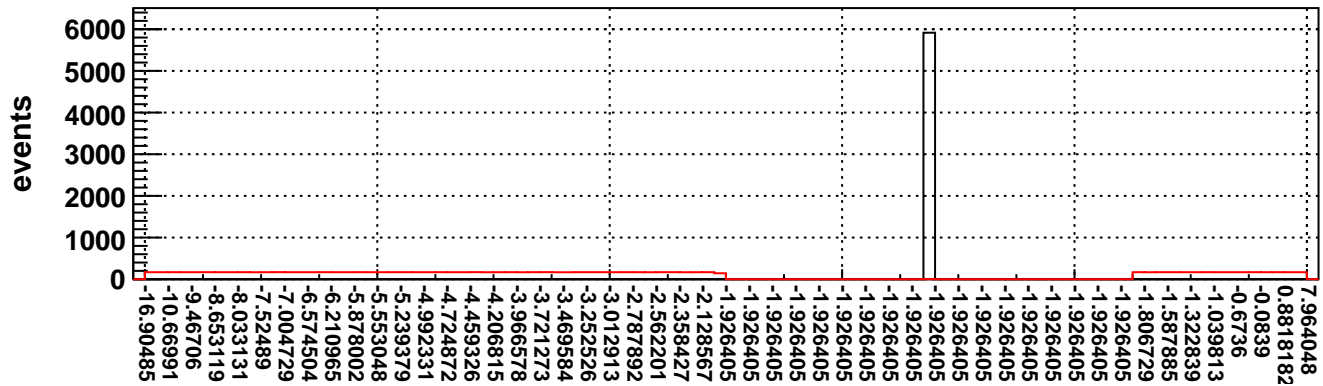
added signi. 79.75

signi. loss 17.82

PrePro: 12 #6

only this 44.54

corr. to others 90.70%



Input node 7 : pt\_tot

3rd most important

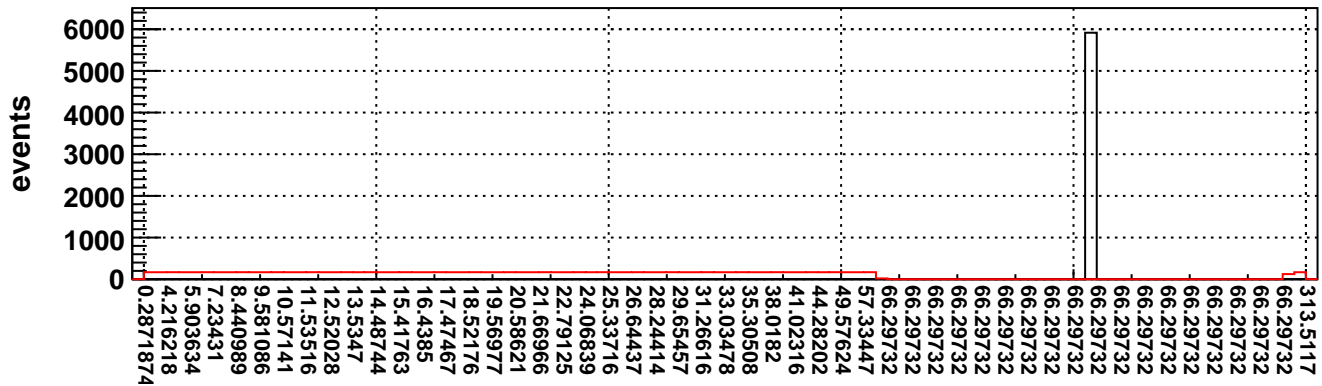
added signi. 40.82

signi. loss 23.51

PrePro: 12 #7

only this 93.27

corr. to others 68.90%



Input node 8 : met centrality

4th most important

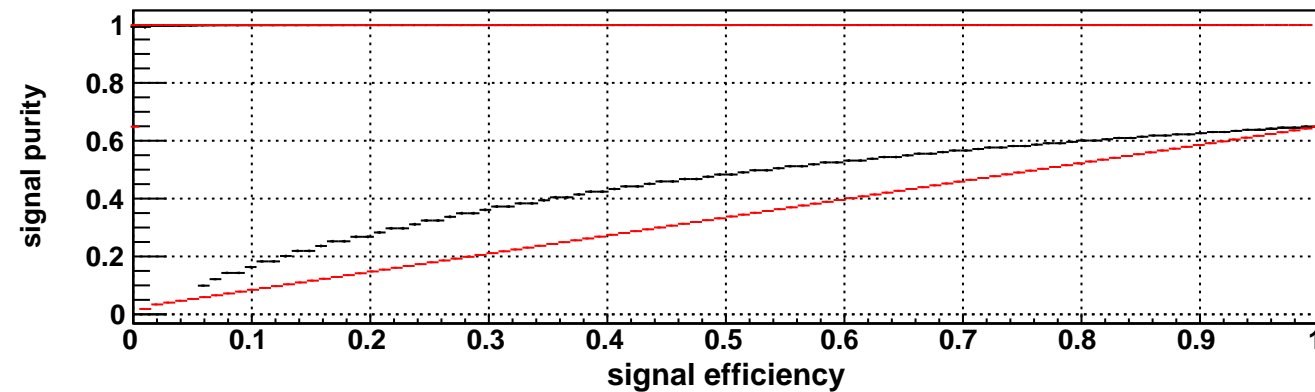
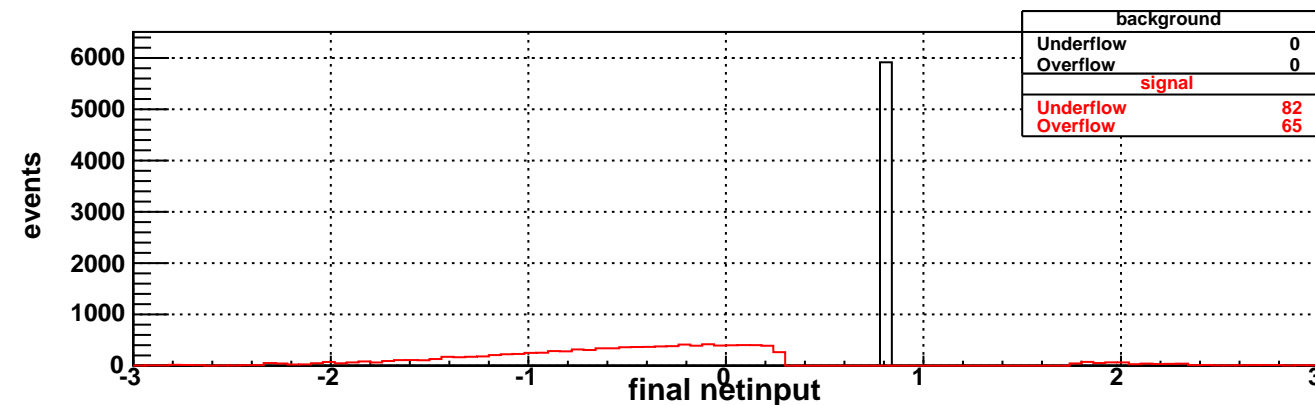
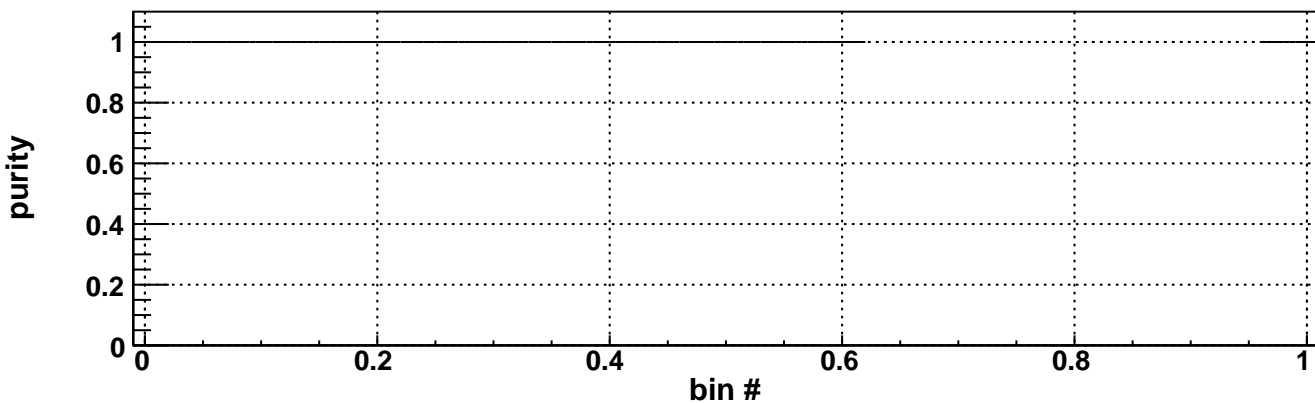
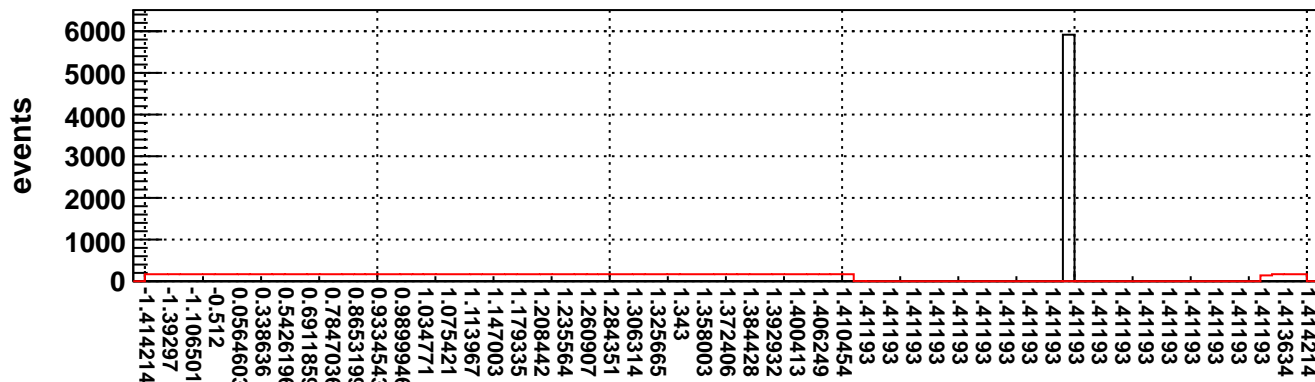
added signi. 30.60

signi. loss 21.88

PrePro: 12 #8

only this 81.03

corr. to others 58.90%





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**PrePro: 12 #12**

**only this 55.91**

**corr. to others 77.00%**



| background |   |
|------------|---|
| Underflow  | 0 |
| Overflow   | 0 |
| signal     |   |
| Underflow  | 4 |
| Overflow   | 1 |

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**PrePro: 12 #13**

**only this 71.03**

**corr. to others 71.60%**



Input node 3 : dr\_leptau

7th most important

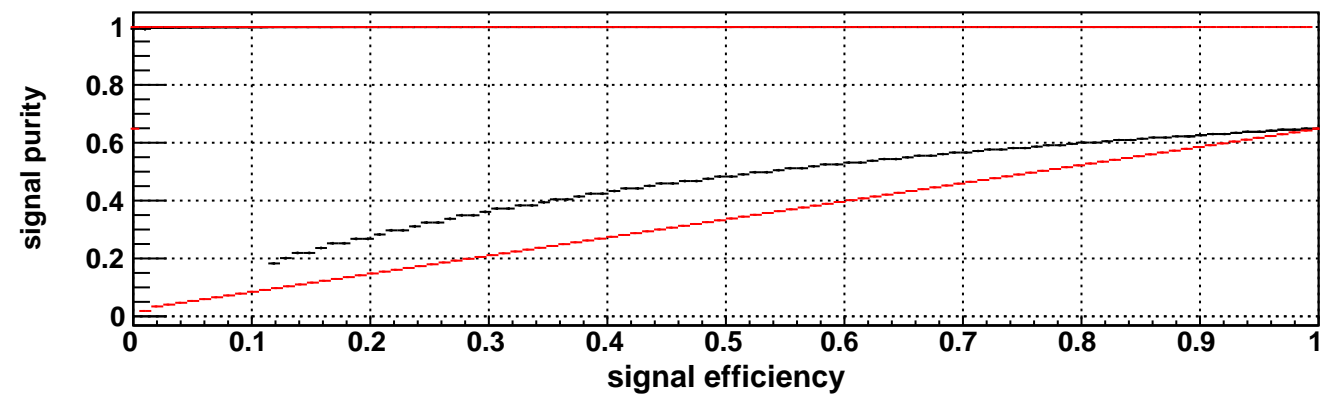
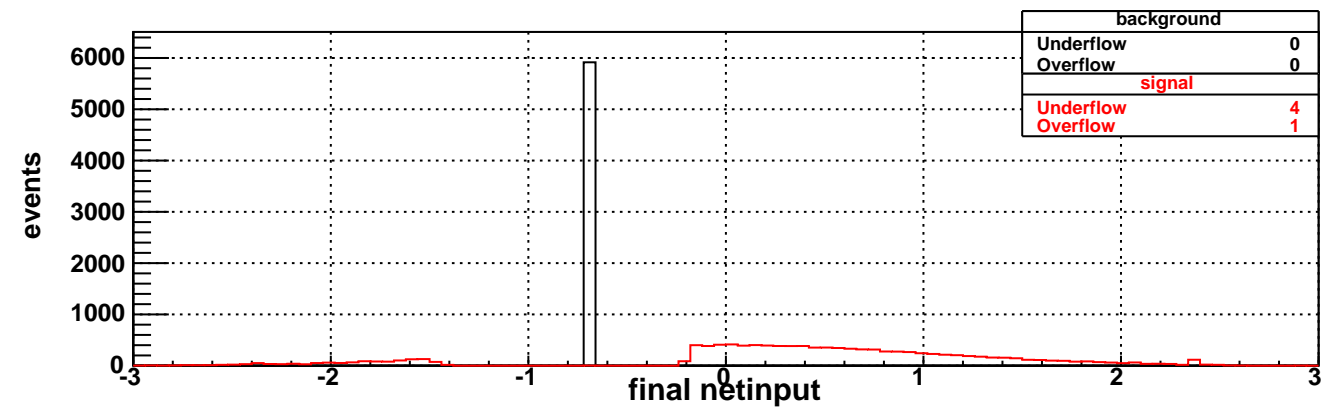
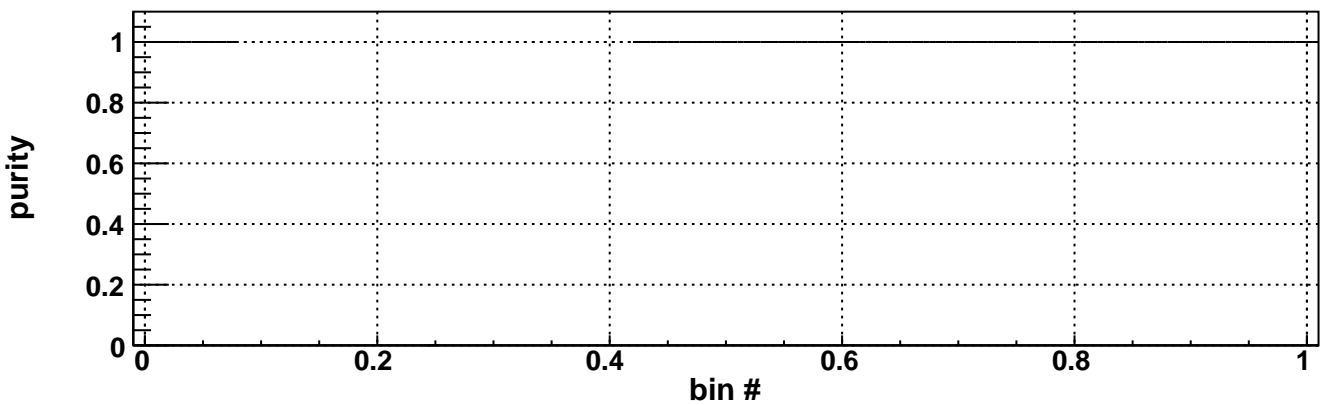
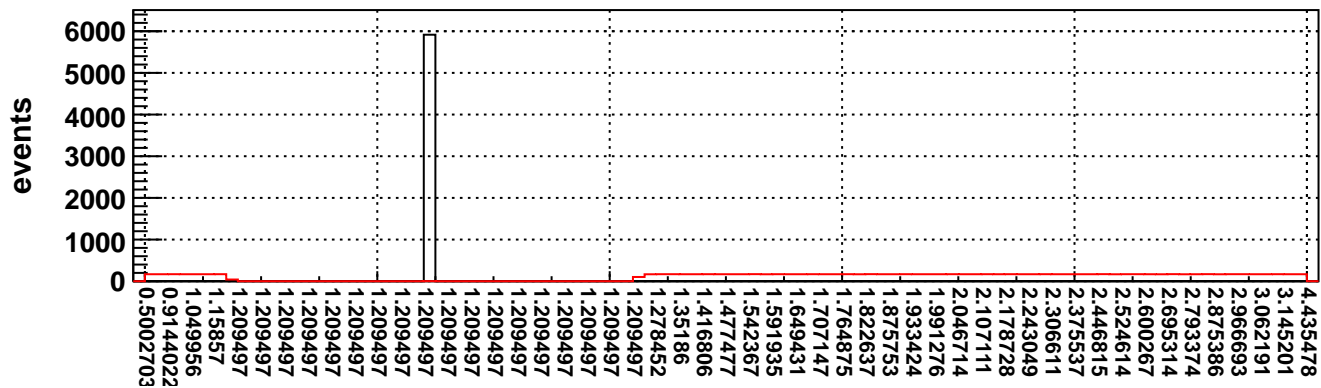
added signi. 12.31

signi. loss 16.77

PrePro: 12 #3

only this 69.03

corr. to others 82.90%



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**PrePro: 12 #11**

**only this 93.48**

**corr. to others 92.10%**



Input node 4 : jdeta

9th most important

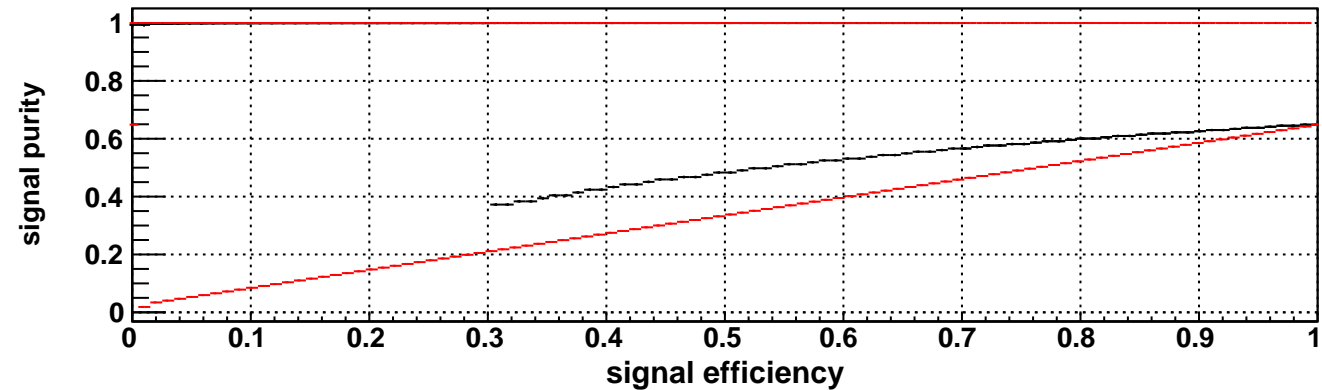
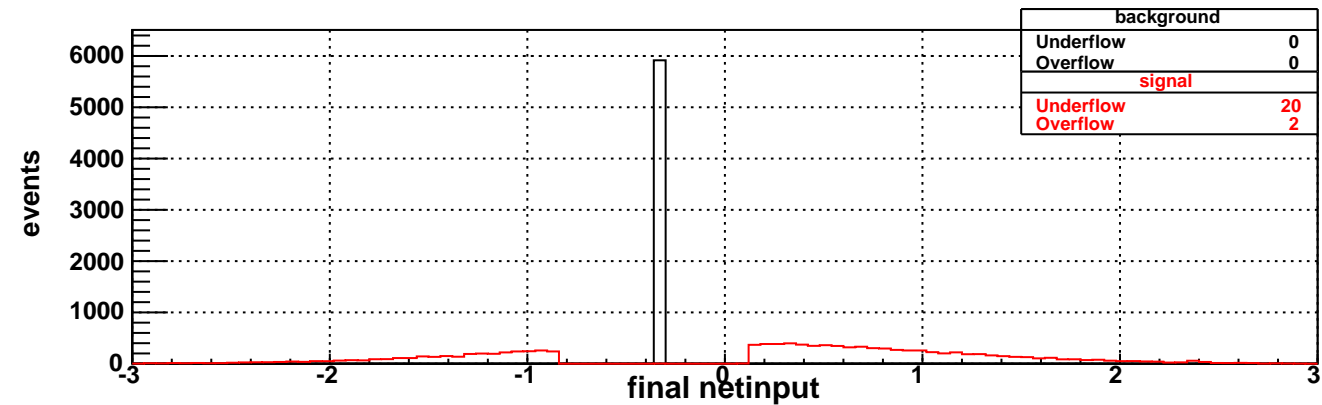
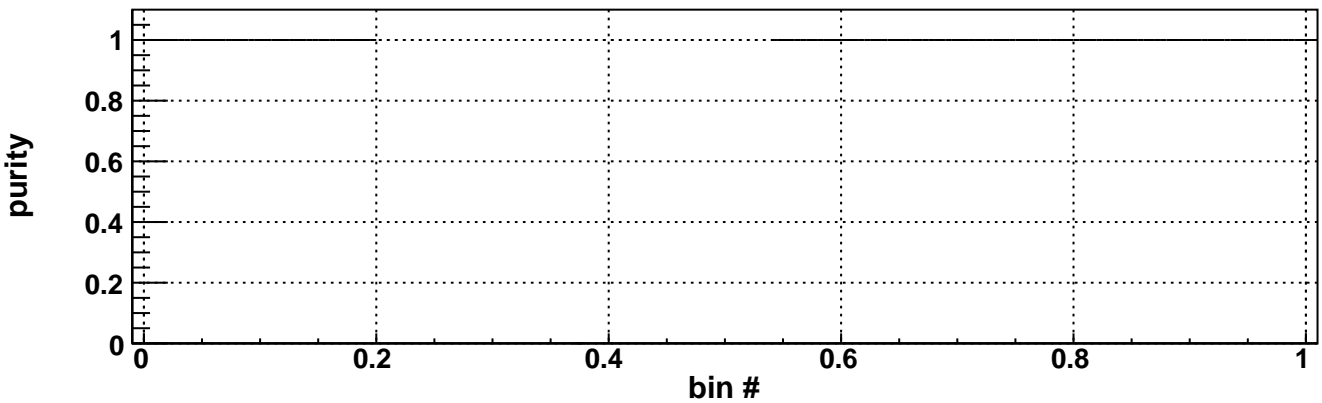
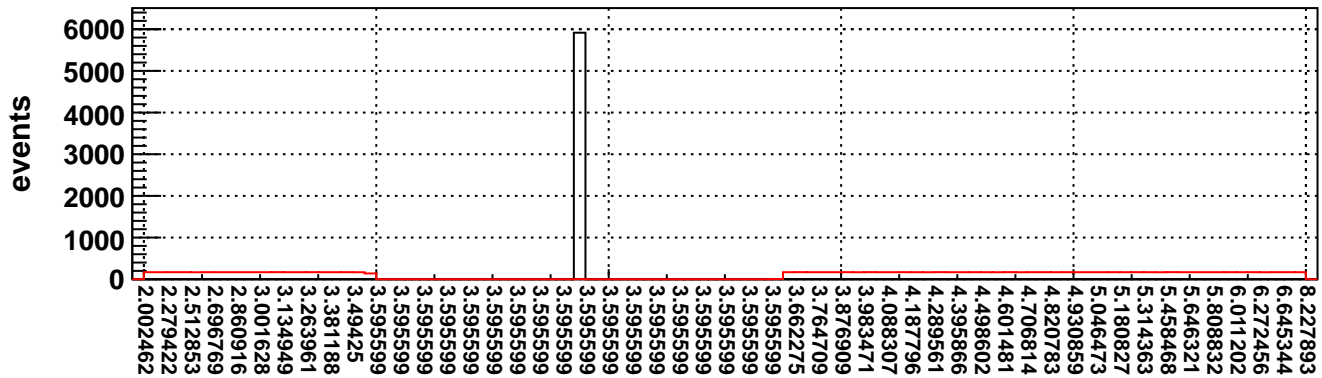
added signi. 8.13

signi. loss 8.69

PrePro: 12 #4

only this 32.27

corr. to others 93.50%



Input node 2 : svfit\_mass

10th most important

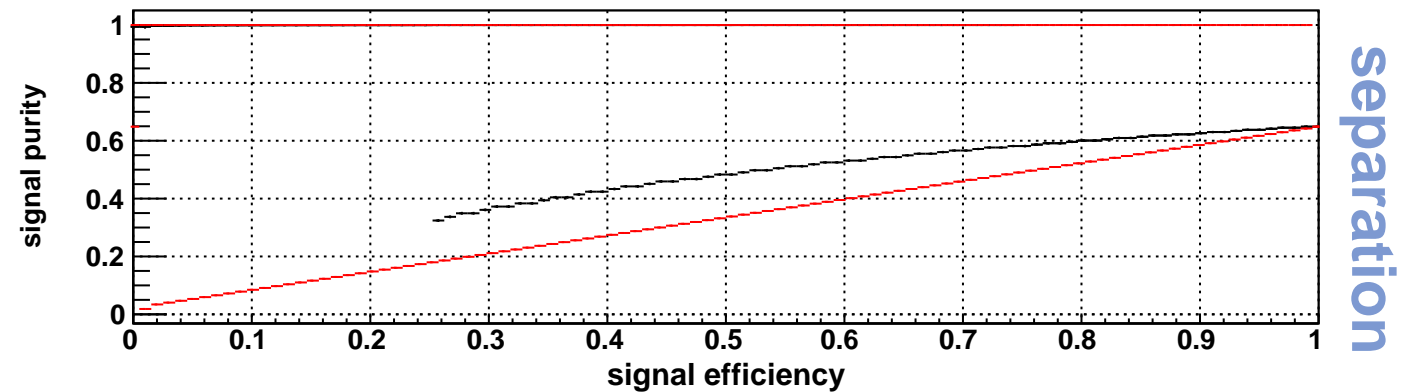
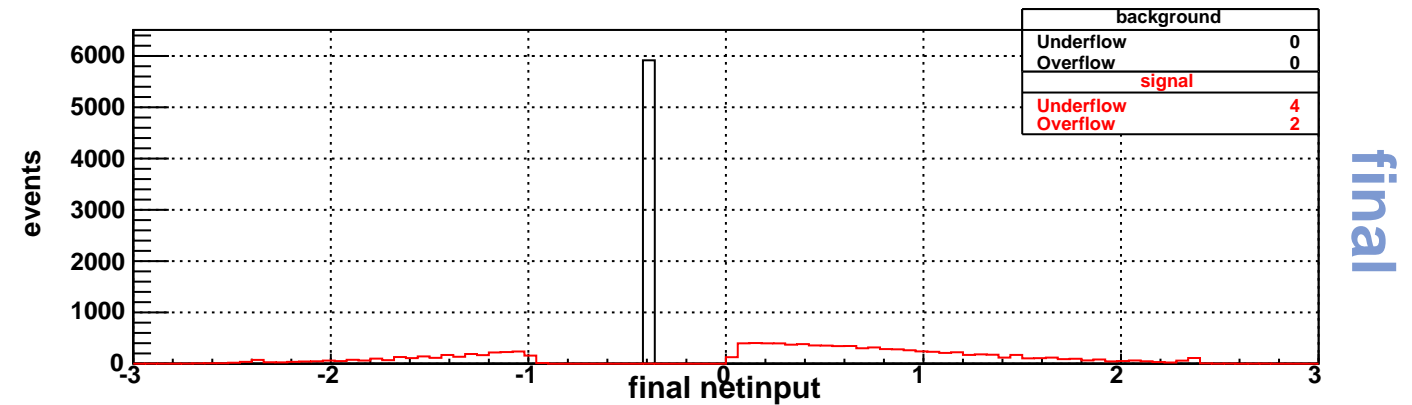
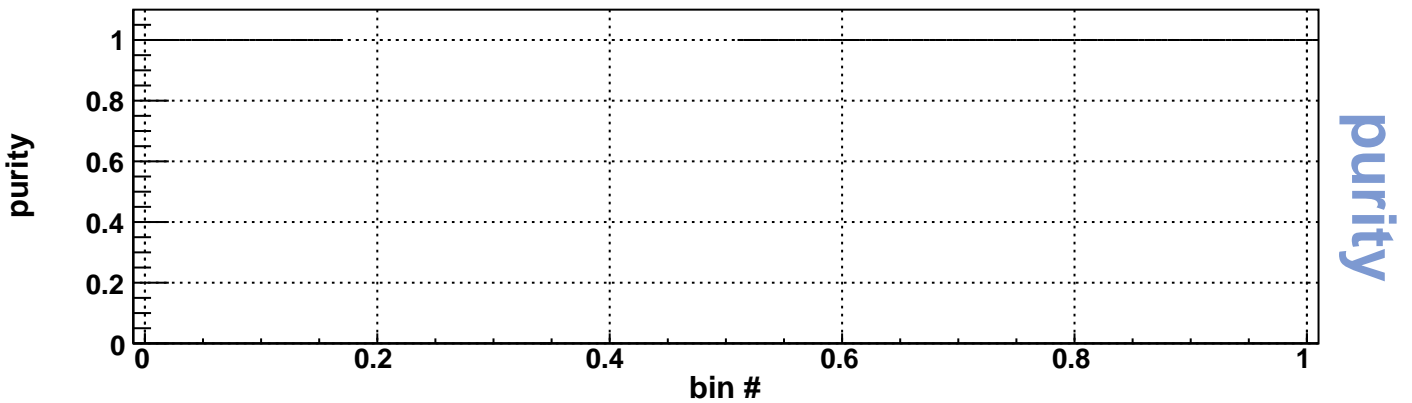
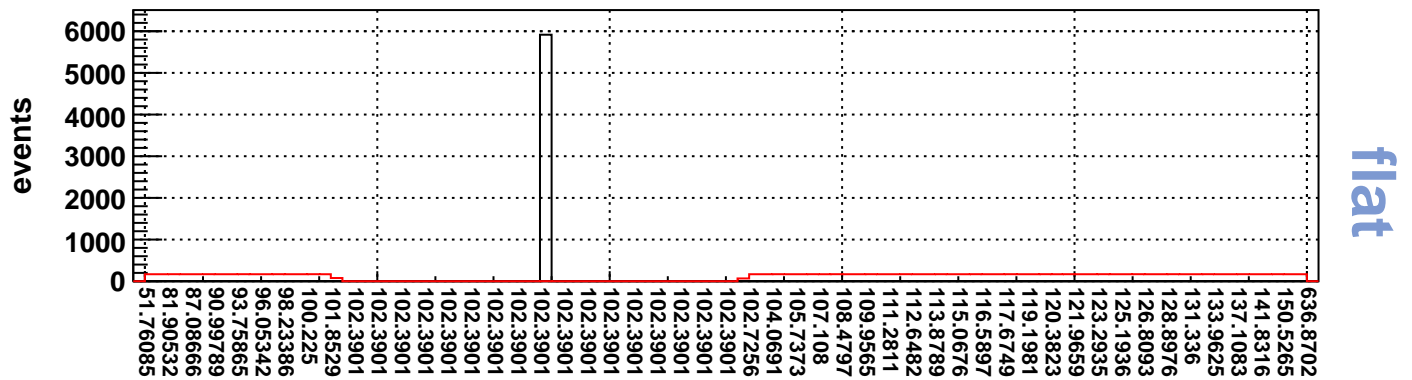
added signi. 7.63

signi. loss 7.52

PrePro: 12 #2

only this 41.19

corr. to others 64.30%



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**PrePro: 12 #10**

**only this 38.14**

**corr. to others 41.70%**

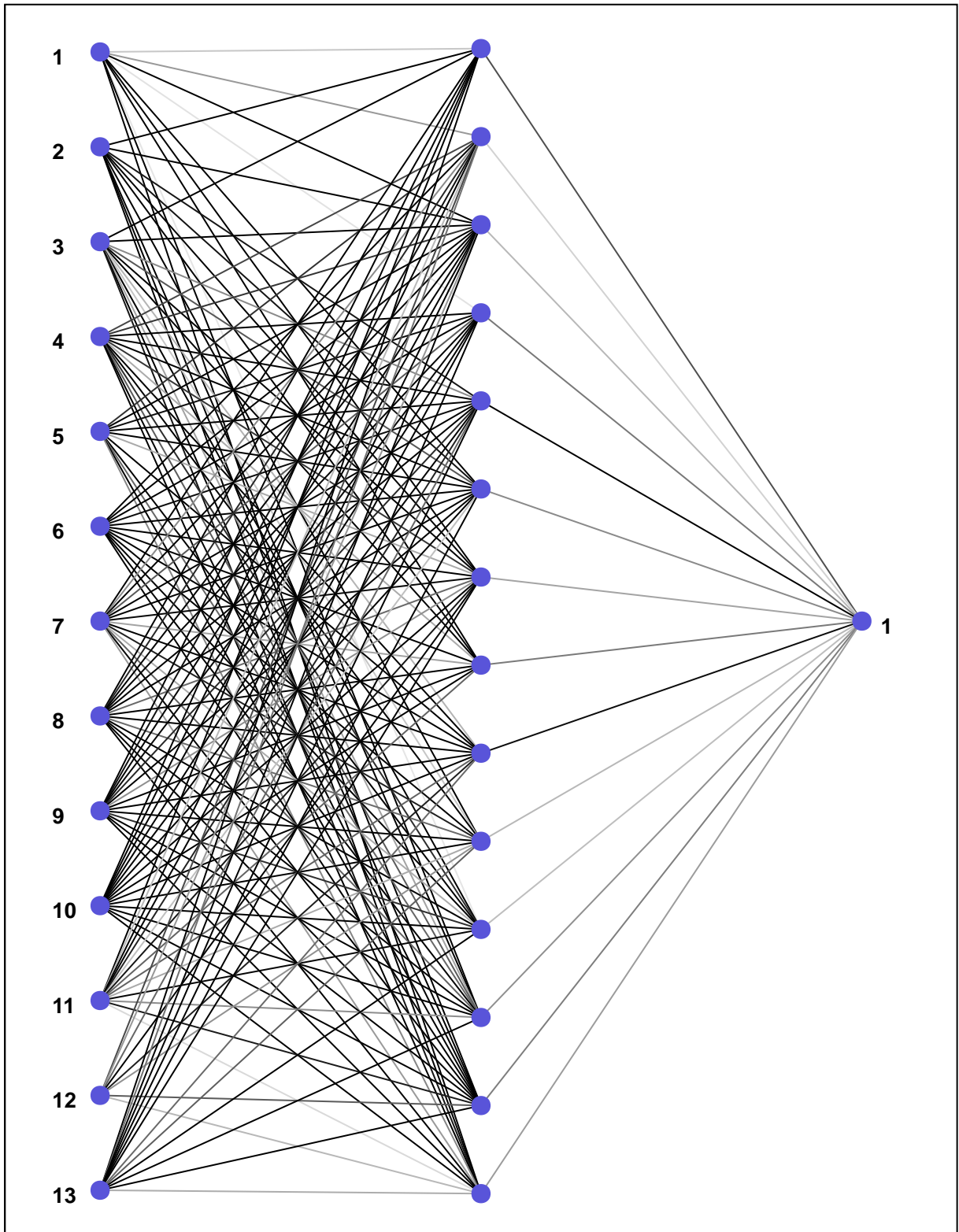


| background |    |
|------------|----|
| Underflow  | 0  |
| Overflow   | 0  |
| signal     |    |
| Underflow  | 37 |
| Overflow   | 54 |





## Network at iteration 100



input layer

hidden layer

output layer