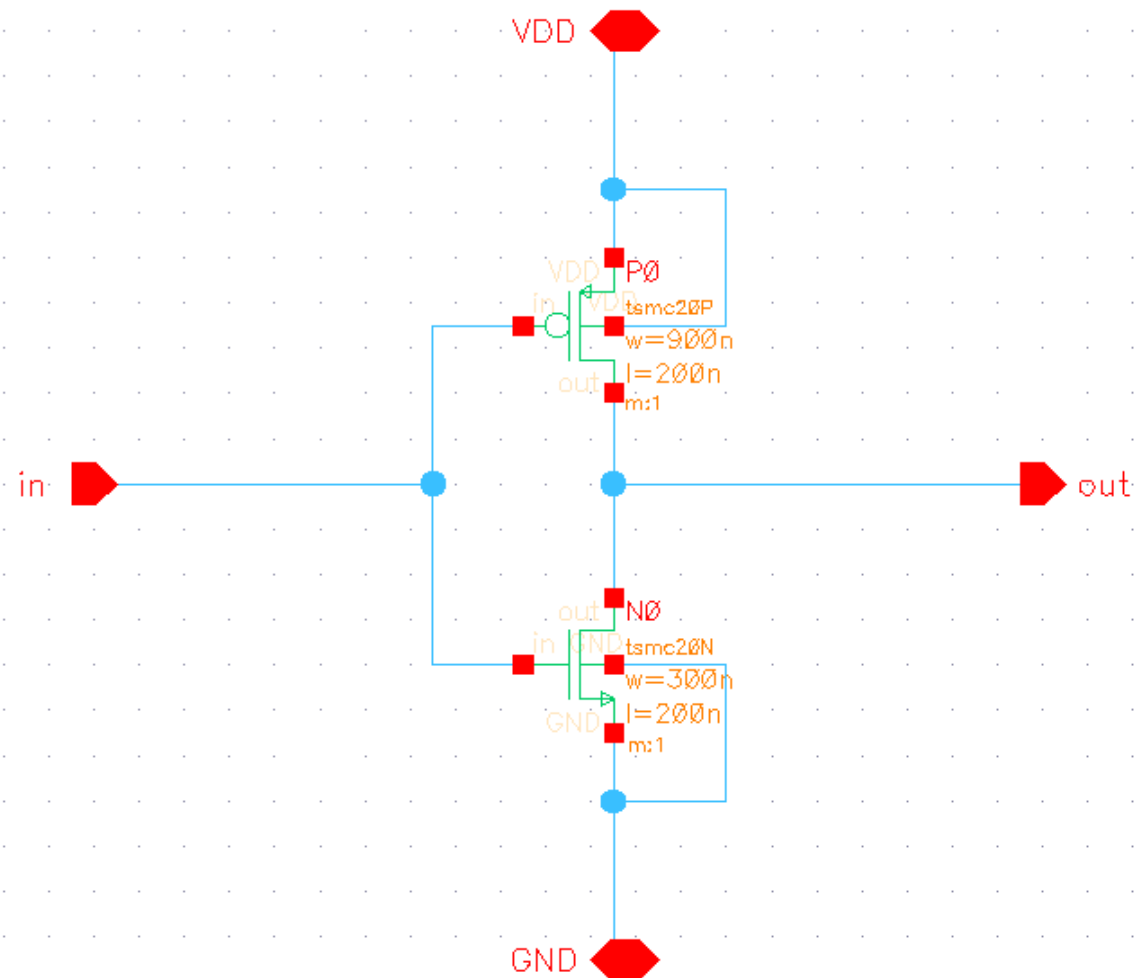
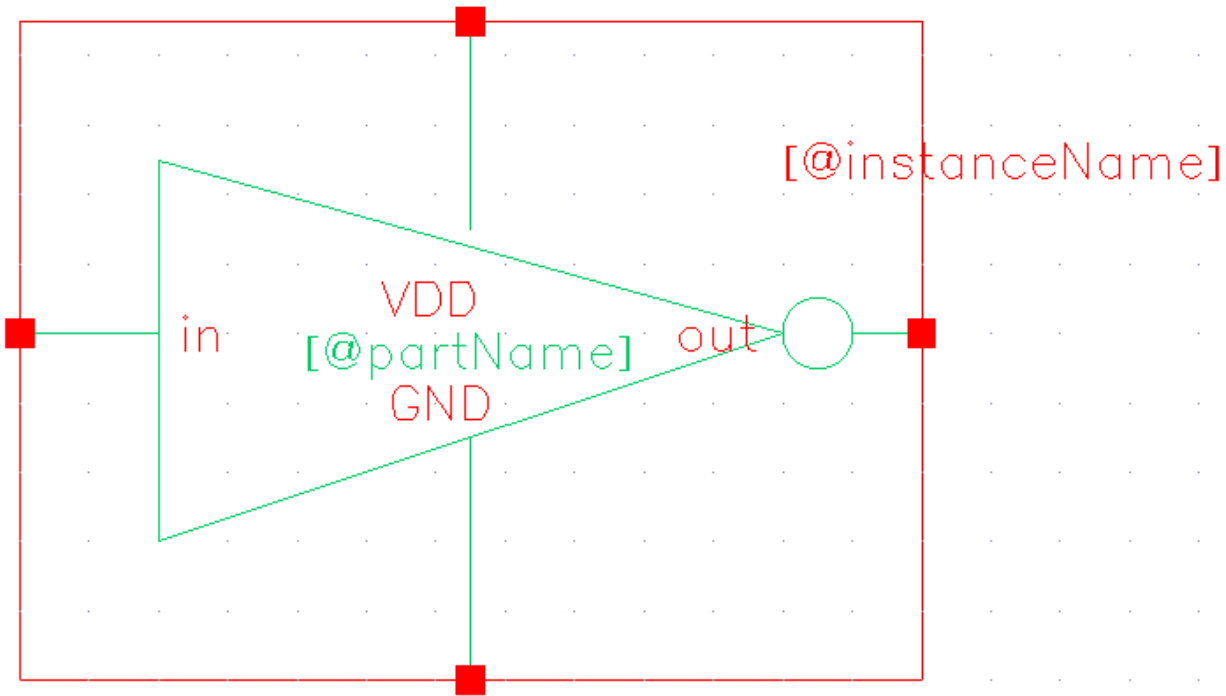


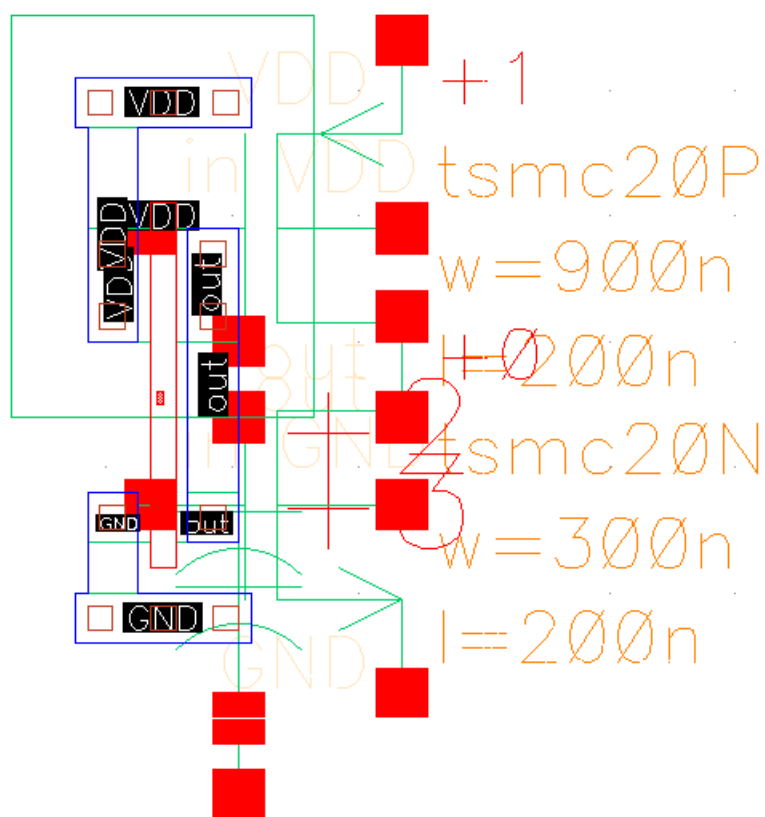
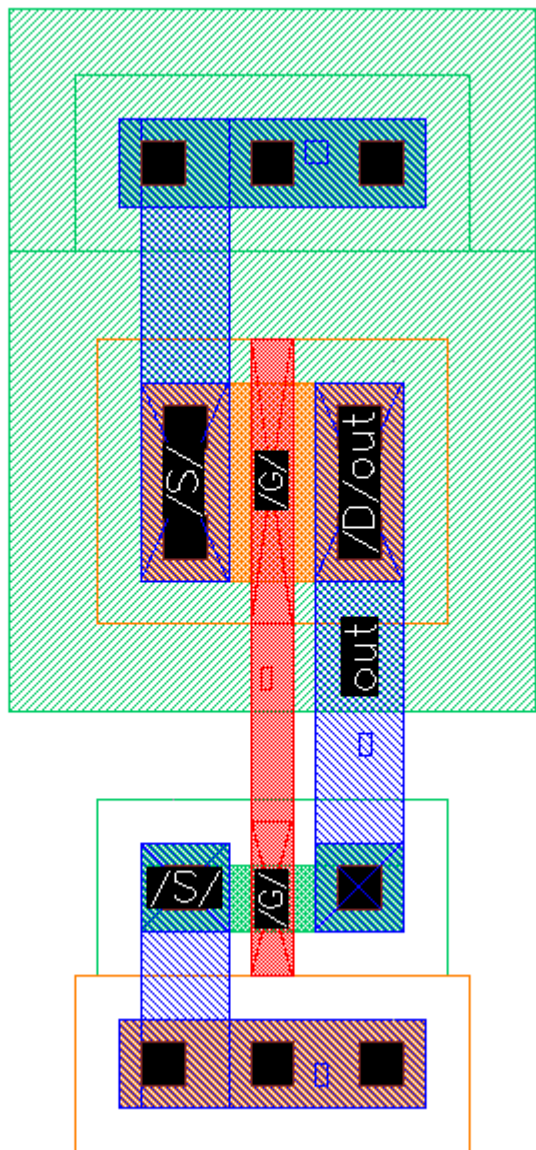
ECEN 454 Lab 2 Postlab

Albert Zhong

Due Date: 6-21-2018

## Inverter





LVS Output (Inverter):

@(#)SCDS: LVS version 6.1.7-64b 01/24/2017 19:46 (sjfhw310) \$

Command line: /softwares/Linux/cadence/IC617/tools.lnx86/dfl/bin/64bit/LVS -dir  
/home/ugrads/a/albertzong/ECEN454/Lab1/LVS -l -s -t  
/home/ugrads/a/albertzong/ECEN454/Lab1/LVS/layout  
/home/ugrads/a/albertzong/ECEN454/Lab1/LVS/schematic  
Like matching is enabled.  
Net swapping is enabled.  
Using terminal names as correspondence points.  
Compiling Diva LVS rules...

Net-list summary for /home/ugrads/a/albertzong/ECEN454/Lab1/LVS/layout/netlist

| count |           |
|-------|-----------|
| 4     | nets      |
| 4     | terminals |
| 1     | pmos      |
| 1     | nmos      |

Net-list summary for /home/ugrads/a/albertzong/ECEN454/Lab1/LVS/schematic/netlist

| count |           |
|-------|-----------|
| 4     | nets      |
| 4     | terminals |
| 1     | pmos      |
| 1     | nmos      |

Terminal correspondence points

|    |    |     |
|----|----|-----|
| N0 | N1 | GND |
| N3 | N0 | VDD |
| N2 | N2 | in  |
| N1 | N3 | out |

Devices in the netlist but not in the rules:

pcapacitor

Devices in the rules but not in the netlist:

cap nfet pfet nmos4 pmos4

The net-lists match.

|             | layout    | schematic |
|-------------|-----------|-----------|
|             | instances |           |
| un-matched  | 0         | 0         |
| rewired     | 0         | 0         |
| size errors | 0         | 0         |
| pruned      | 0         | 0         |
| active      | 2         | 2         |

|       |   |   |
|-------|---|---|
| total | 2 | 2 |
|-------|---|---|

|            |      |   |
|------------|------|---|
|            | nets |   |
| un-matched | 0    | 0 |
| merged     | 0    | 0 |
| pruned     | 0    | 0 |
| active     | 4    | 4 |
| total      | 4    | 4 |

|                               |           |   |
|-------------------------------|-----------|---|
|                               | terminals |   |
| un-matched                    | 0         | 0 |
| matched but<br>different type | 0         | 0 |
| total                         | 4         | 4 |

Probe files from /home/ugrads/a/albertzong/ECEN454/Lab1/LVS/schematic

devbad.out:

netbad.out:

mergenet.out:

termbad.out:

prunenet.out:

prunedev.out:

audit.out:

Probe files from /home/ugrads/a/albertzong/ECEN454/Lab1/LVS/layout

devbad.out:

netbad.out:

mergenet.out:

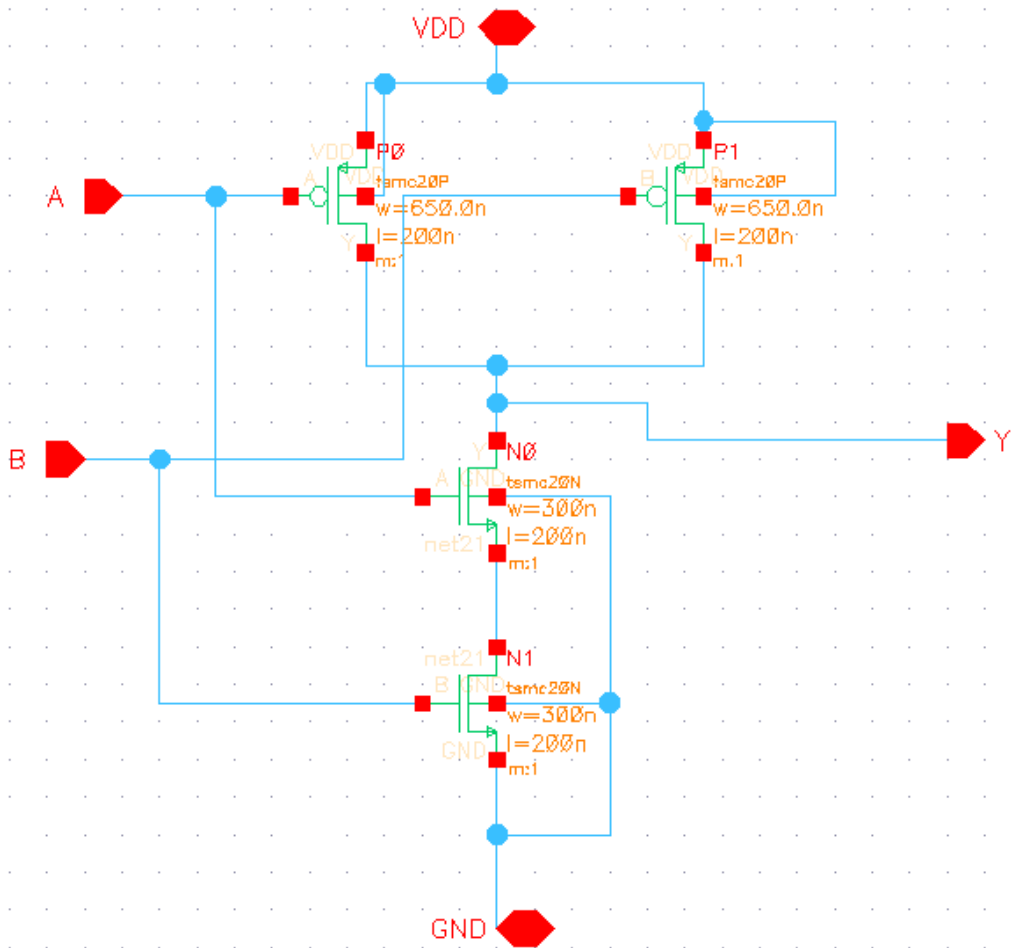
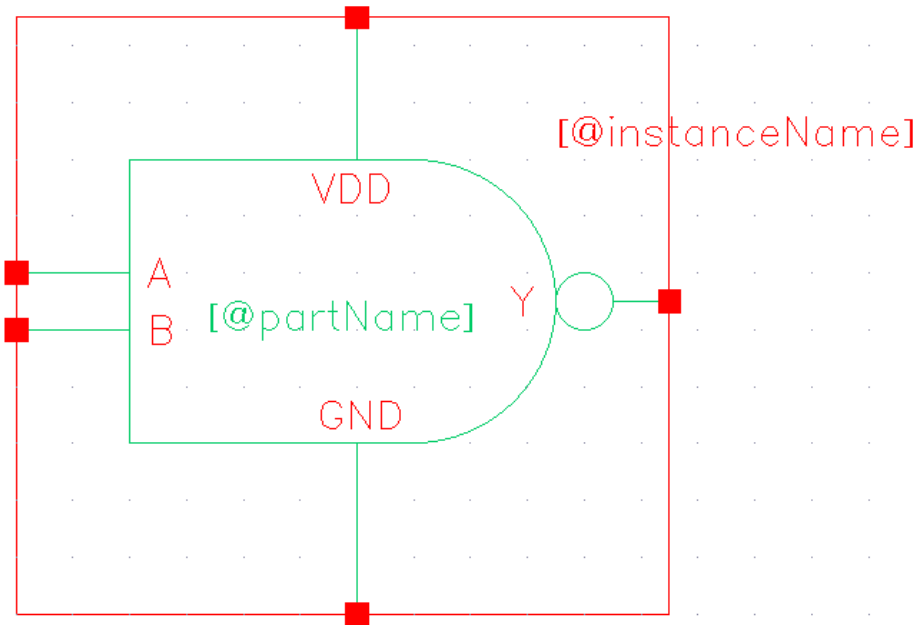
termbad.out:

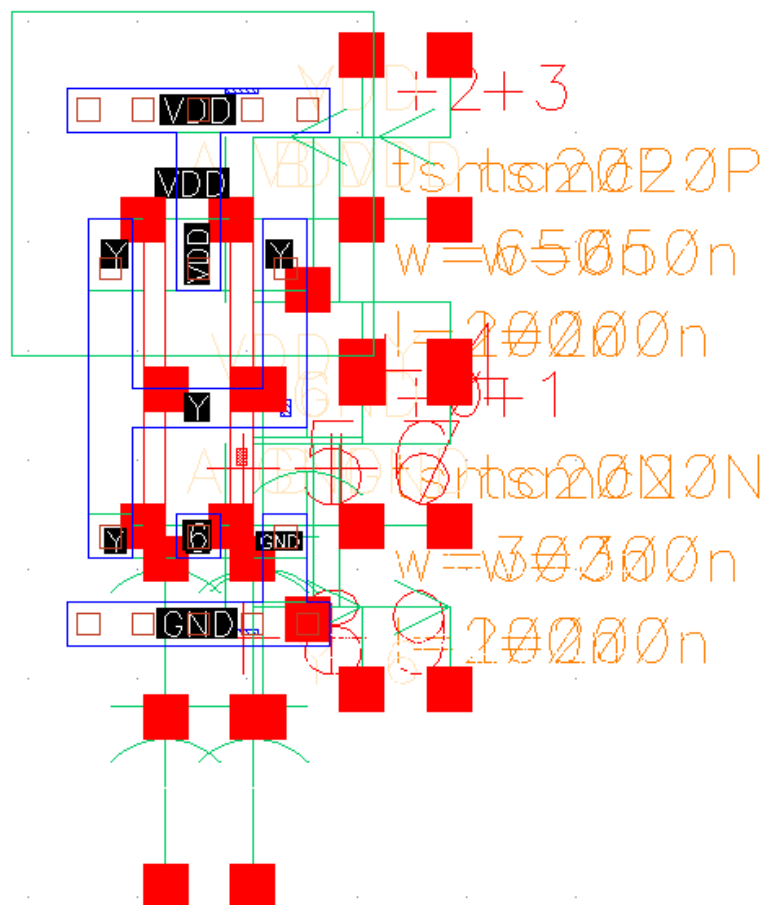
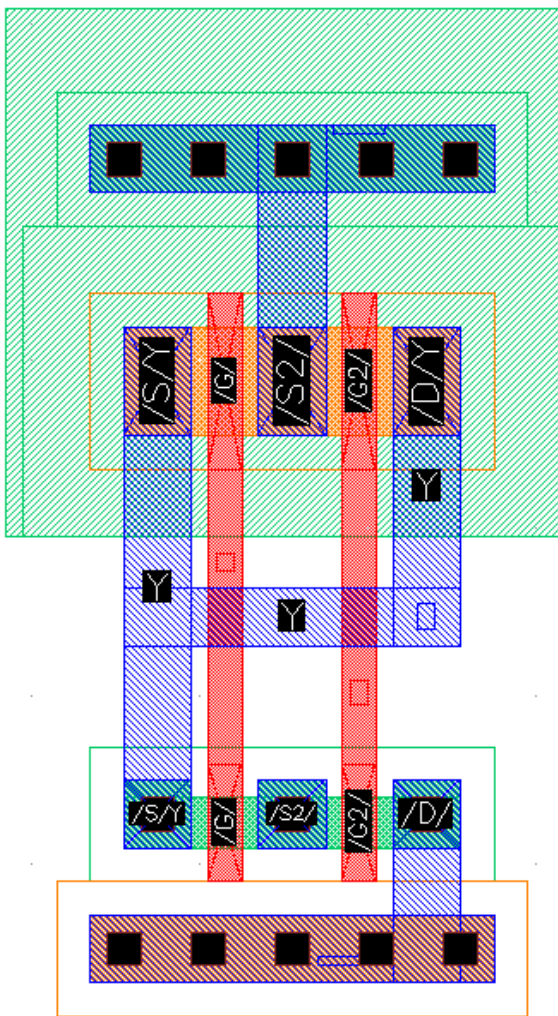
prunenet.out:

prunedev.out:

audit.out:

## NAND





## LVS Output (NAND):

@(#)SCDS: LVS version 6.1.7-64b 01/24/2017 19:46 (sjfhw310) \$

Command line: /softwares/Linux/cadence/IC617/tools.lnx86/dfl/bin/64bit/LVS -dir  
/home/ugrads/a/albertzong/ECEN454/Lab1/LVS -l -s -t /home/ugrads/a/albertzong/ECEN454/Lab1/LVS/layout  
/home/ugrads/a/albertzong/ECEN454/Lab1/LVS/schematic

Like matching is enabled.

Net swapping is enabled.

Using terminal names as correspondence points.

Compiling Diva LVS rules...

Net-list summary for /home/ugrads/a/albertzong/ECEN454/Lab1/LVS/layout/netlist

count

|   |           |
|---|-----------|
| 6 | nets      |
| 5 | terminals |
| 2 | pmos      |
| 2 | nmos      |

Net-list summary for /home/ugrads/a/albertzong/ECEN454/Lab1/LVS/schematic/netlist

count

|   |           |
|---|-----------|
| 6 | nets      |
| 5 | terminals |
| 2 | pmos      |
| 2 | nmos      |

Terminal correspondence points

|    |    |     |
|----|----|-----|
| N4 | N4 | A   |
| N3 | N5 | B   |
| N2 | N1 | GND |
| N5 | N0 | VDD |
| N1 | N2 | Y   |

Devices in the netlist but not in the rules:

pcapacitor

Devices in the rules but not in the netlist:

cap nfet pfet nmos4 pmos4

The net-lists match.

|             | layout    | schematic |
|-------------|-----------|-----------|
|             | instances |           |
| un-matched  | 0         | 0         |
| rewired     | 0         | 0         |
| size errors | 0         | 0         |
| pruned      | 0         | 0         |
| active      | 4         | 4         |
| total       | 4         | 4         |

|            | nets |   |
|------------|------|---|
| un-matched | 0    | 0 |



|        |   |   |
|--------|---|---|
| merged | 0 | 0 |
| pruned | 0 | 0 |
| active | 6 | 6 |
| total  | 6 | 6 |

|                               | terminals |   |
|-------------------------------|-----------|---|
| un-matched                    | 0         | 0 |
| matched but<br>different type | 0         | 0 |
| total                         | 5         | 5 |

Probe files from /home/ugrads/a/albertzong/ECEN454/Lab1/LVS/schematic

devbad.out:

netbad.out:

mergenet.out:

termbad.out:

prunenet.out:

prunedev.out:

audit.out:

Probe files from /home/ugrads/a/albertzong/ECEN454/Lab1/LVS/layout

devbad.out:

netbad.out:

mergenet.out:

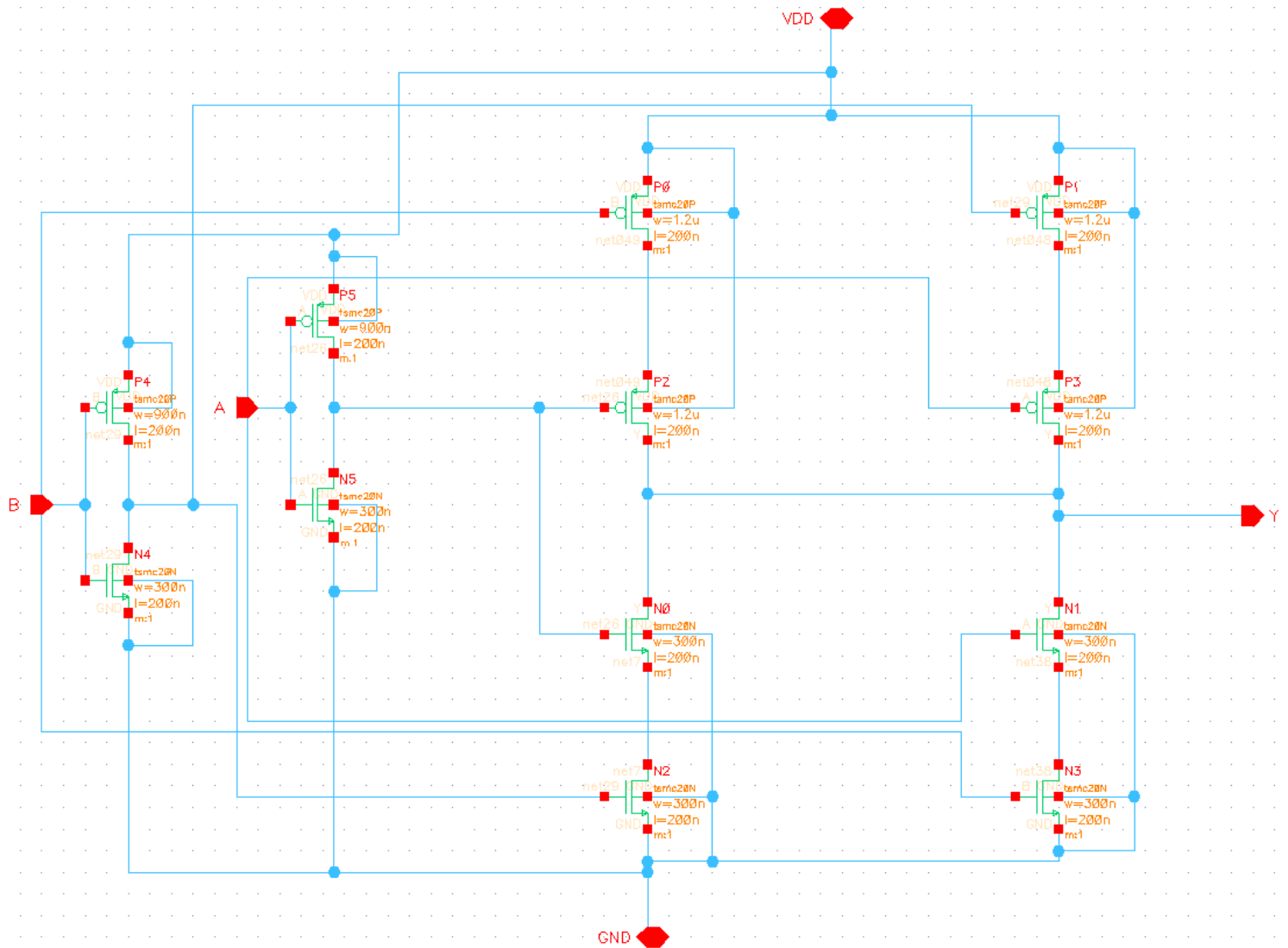
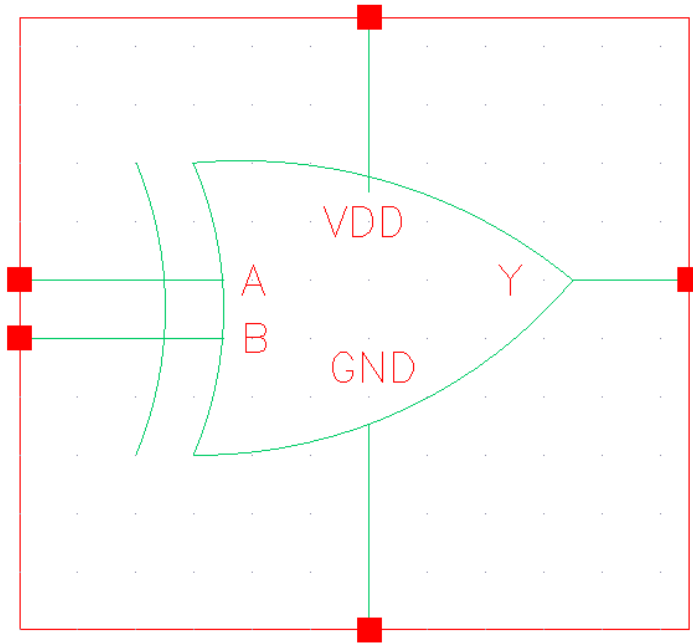
termbad.out:

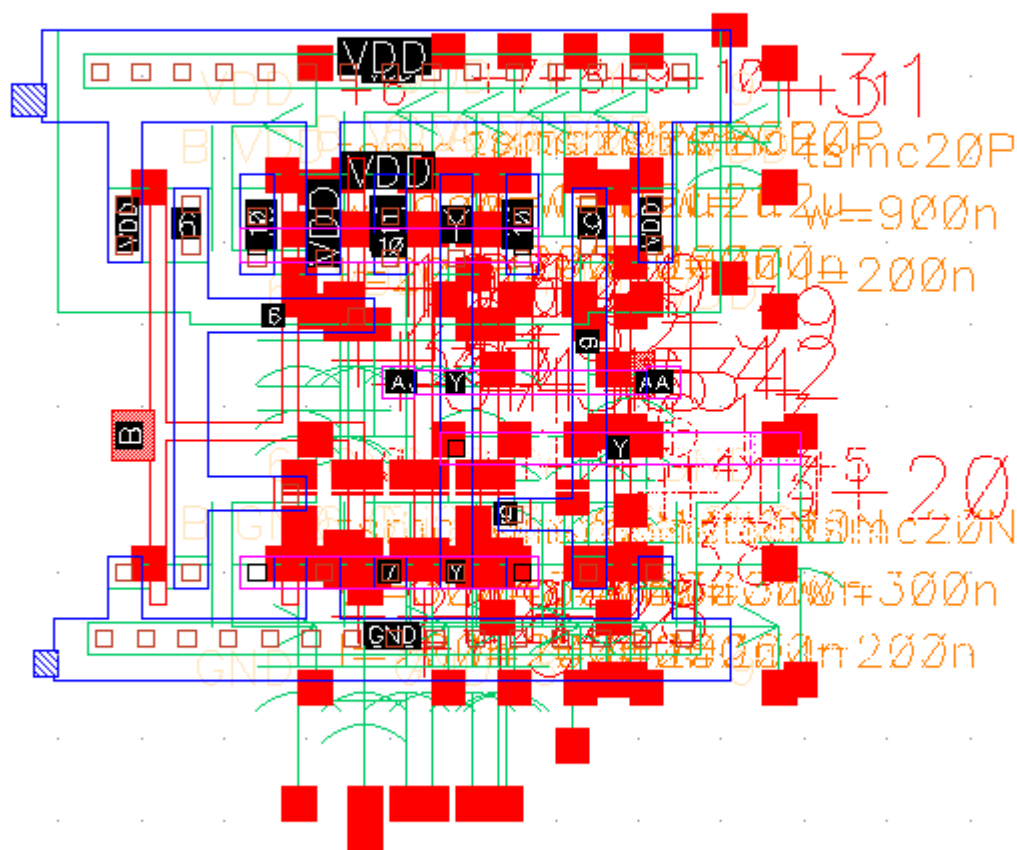
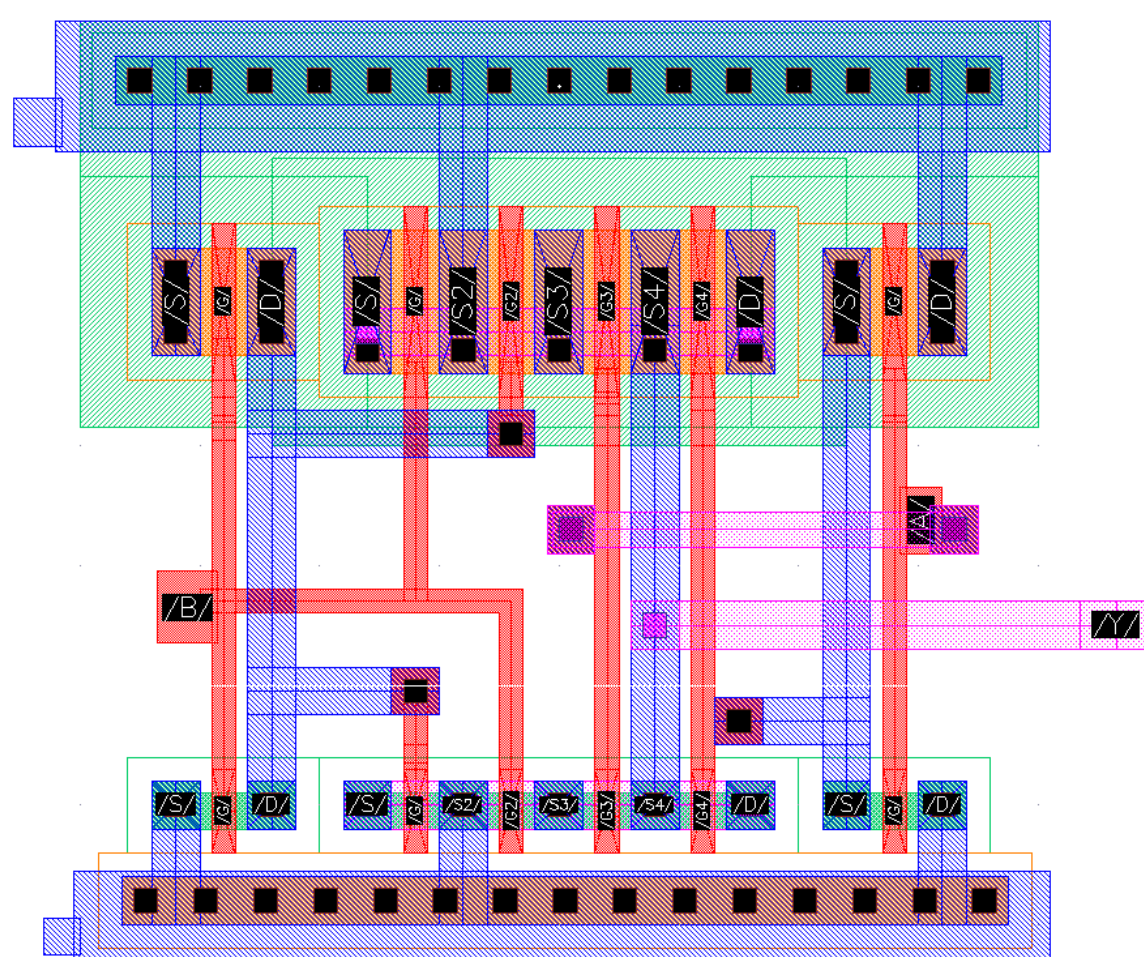
prunenet.out:

prunedev.out:

audit.out:

## XOR





## LVS Output (XOR):

@(#)SCDS: LVS version 6.1.7-64b 01/24/2017 19:46 (sjfhw310) \$

Command line: /softwares/Linux/cadence/IC617/tools.lnx86/dfll/bin/64bit/LVS -dir  
/home/ugrads/a/albertzong/ECEN454/Lab1/LVS -l -s -t /home/ugrads/a/albertzong/ECEN454/Lab1/LVS/layout  
/home/ugrads/a/albertzong/ECEN454/Lab1/LVS/schematic

Like matching is enabled.

Net swapping is enabled.

Using terminal names as correspondence points.

Compiling Diva LVS rules...

Net-list summary for /home/ugrads/a/albertzong/ECEN454/Lab1/LVS/layout/netlist

| count |           |
|-------|-----------|
| 11    | nets      |
| 5     | terminals |
| 6     | pmos      |
| 6     | nmos      |

Net-list summary for /home/ugrads/a/albertzong/ECEN454/Lab1/LVS/schematic/netlist

| count |           |
|-------|-----------|
| 11    | nets      |
| 5     | terminals |
| 6     | pmos      |
| 6     | nmos      |

Terminal correspondence points

|     |     |     |
|-----|-----|-----|
| N9  | N3  | A   |
| N8  | N10 | B   |
| N7  | N7  | GND |
| N10 | N8  | VDD |
| N6  | N5  | Y   |

Devices in the netlist but not in the rules:

pcapacitor

Devices in the rules but not in the netlist:

cap nfet pfet nmos4 pmos4

The net-lists match.

|             | layout    | schematic |
|-------------|-----------|-----------|
|             | instances |           |
| un-matched  | 0         | 0         |
| rewired     | 0         | 0         |
| size errors | 0         | 0         |
| pruned      | 0         | 0         |
| active      | 12        | 12        |
| total       | 12        | 12        |

|            | nets |   |
|------------|------|---|
| un-matched | 0    | 0 |

|        |    |    |
|--------|----|----|
| merged | 0  | 0  |
| pruned | 0  | 0  |
| active | 11 | 11 |
| total  | 11 | 11 |

|                               | terminals |   |
|-------------------------------|-----------|---|
| un-matched                    | 0         | 0 |
| matched but<br>different type | 0         | 0 |
| total                         | 5         | 5 |

Probe files from /home/ugrads/a/albertzong/ECEN454/Lab1/LVS/schematic

devbad.out:

netbad.out:

mergenet.out:

termbad.out:

prunenet.out:

prunedev.out:

audit.out:

Probe files from /home/ugrads/a/albertzong/ECEN454/Lab1/LVS/layout

devbad.out:

netbad.out:

mergenet.out:

termbad.out:

prunenet.out:

prunedev.out:

audit.out: