Code - Final Project

記憶體積體電路 Memory Circuit Design

電機 4A　109501201　陳緯亭

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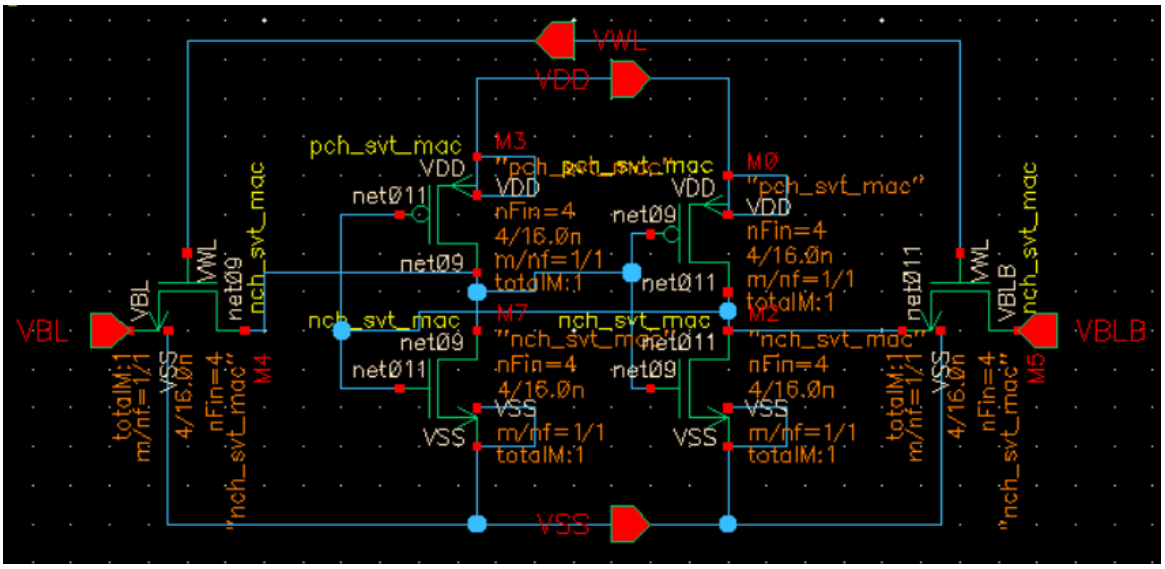

Fig. 1: 16-nm FinFet 6T SRAM schematic

List. 1: 16-nm FinFET 6T SRAM unit cell

```
1  ********************************************************************************
2  * auCdl Netlist:
3  *
4  * Library Name:  109501201
5  * Top Cell Name: SRAM6T
6  * View Name:     schematic
7  * Netlisted on:  Jan  5 02:19:39 2024
8  ********************************************************************************
9  .TEMP 25
10 .OPTION POST = 2
11 .LIB
   ↪  "/E/memory_student/s109501201/sh/N16ADFP_SPICE_MODEL/n16adfp_spice_model_v1d0_usage.l"
   ↪  TTMacro_MOS_MOSCAP
12 ********************************************************************************
13 *.INCLUDE  /E/cad_install/sh/N16ADFP_iPDK/tsmcN16/../Calibre/lvs/source.added
14 *.BIPOLAR
15 *.RESI = 2000
16 *.RESVAL
17 *.CAPVAL
18 *.DIOPERI
19 *.DIOAREA
20 *.EQUATION
```

```
*.SCALE METER
*.MEGA

********************************************************************************
* Library Name: 109501201
* Cell Name:    SRAM6T
* View Name:    schematic
********************************************************************************

*.SUBCKT SRAM6T VBL VBLB VDD VSS VWL
*.PININFO VBL:I VBLB:I VDD:I VSS:I VWL:I
MM3 net09 net011 VDD VDD pch_svt_mac l=16.0n nfin=4 m=1
MM0 net011 net09 VDD VDD pch_svt_mac l=16.0n nfin=4 m=1
MM5 VBLB VWL net011 VSS nch_svt_mac l=16.0n nfin=4 m=1
MM4 net09 VWL VBL VSS nch_svt_mac l=16.0n nfin=4 m=1
MM2 net011 net09 VSS VSS nch_svt_mac l=16.0n nfin=4 m=1
MM7 net09 net011 VSS VSS nch_svt_mac l=16.0n nfin=4 m=1
*.ENDS


********************************************************************************
*** change this Vdd = 0.8, 0.6, 0.4
.param V1 = 0.4

********************************************************************************
.global VDD VSS
VSS  VSS  0     dc  0
VDD  VDD  0     dc V1


********************************* source *********************************

VWL  VWL  gnd  dc V1
VBL  VBL  gnd  dc V1
VBLB VBLB gnd  dc 0
**** change this net011(find RSNM) or net09(find WNM)
VIN  net09  gnd

********************************  circuit **********************************
* XSRAM  VBL VBLB VDD! VSS! VWL SRAM6T


*** only the first dc is effective
.dc VIN  0 V1 0.01V

.probe WNM =   'V(net011)'
.probe RSNM  = 'V(net09)'
.option post
.end
```