

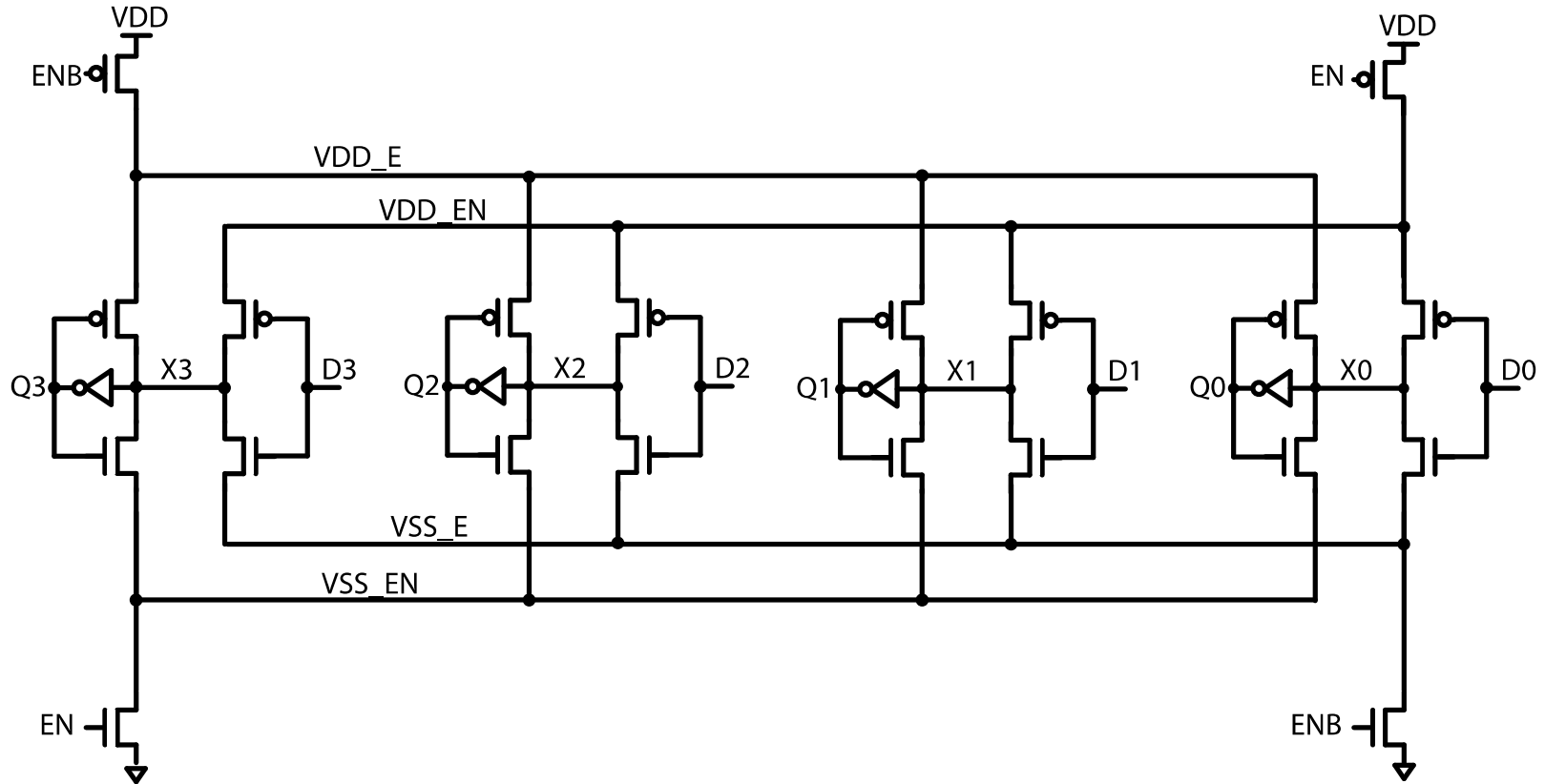
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# Multibit latch

Katerina Papadopoulou

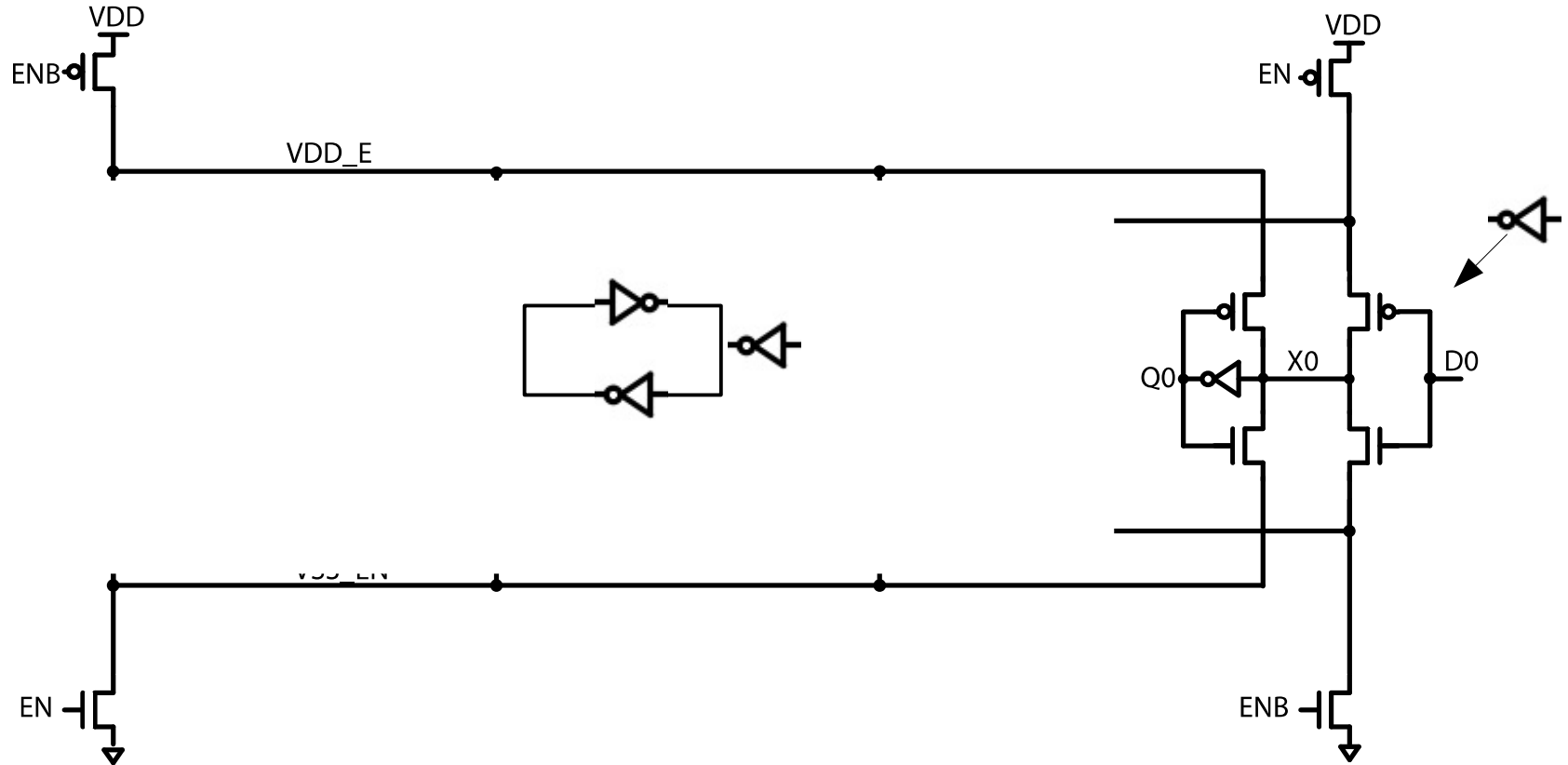


# Multibit latch



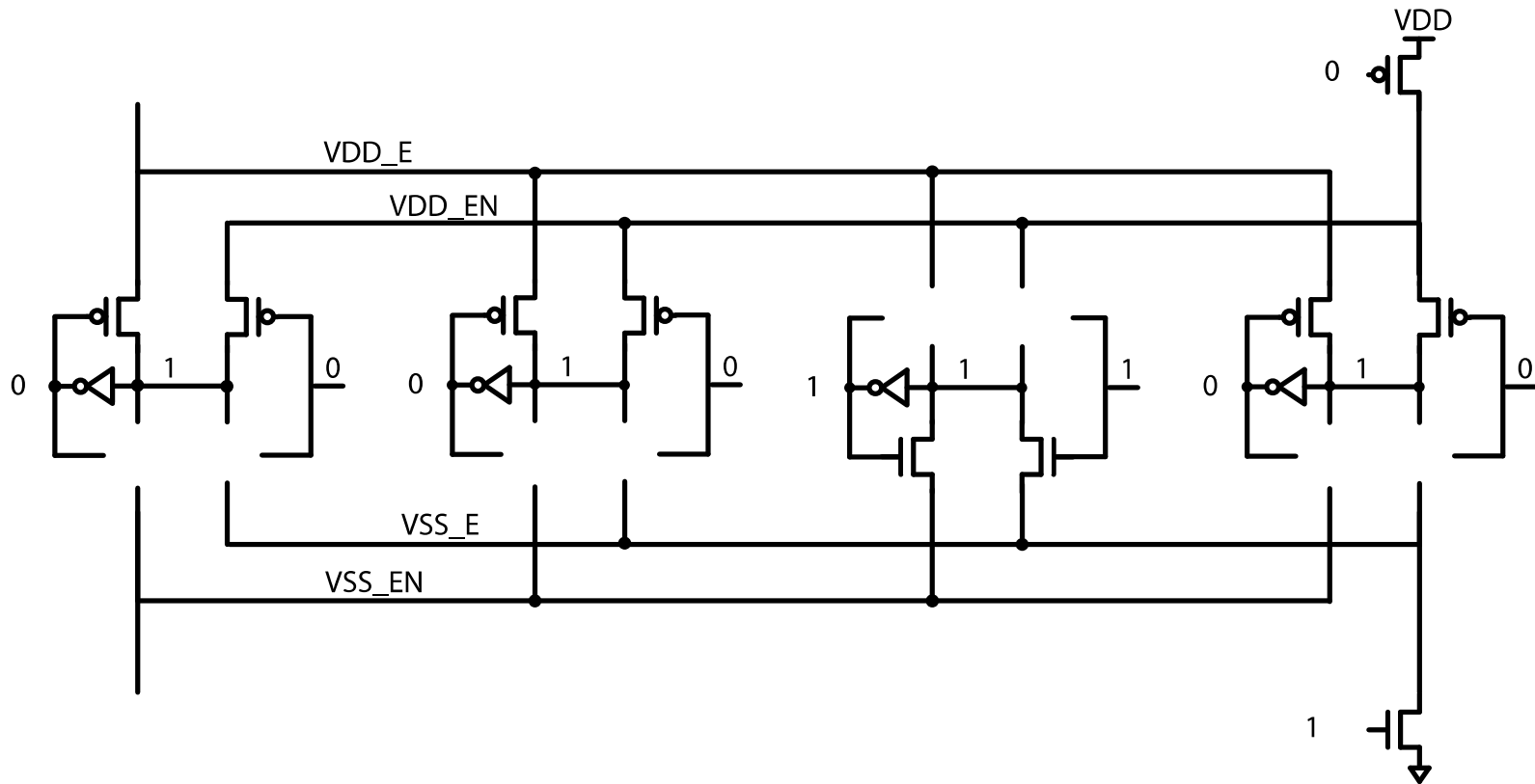
Shrunked 4-bit latch, re-drawn in order to show all current paths.

# A latch



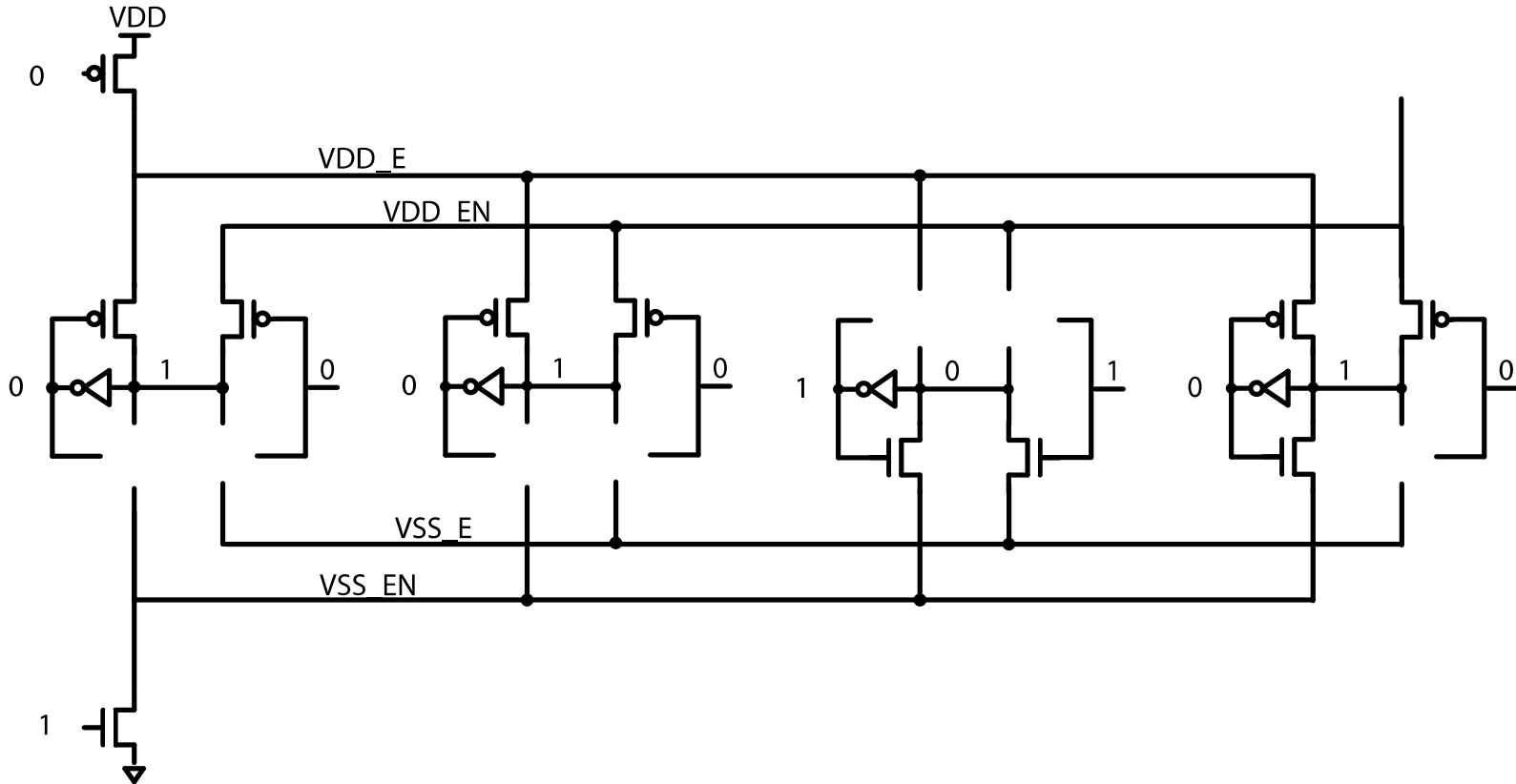
Shrunked 4-bit latch, re-drawn in order to show all current paths.

# EN=0, D=0010



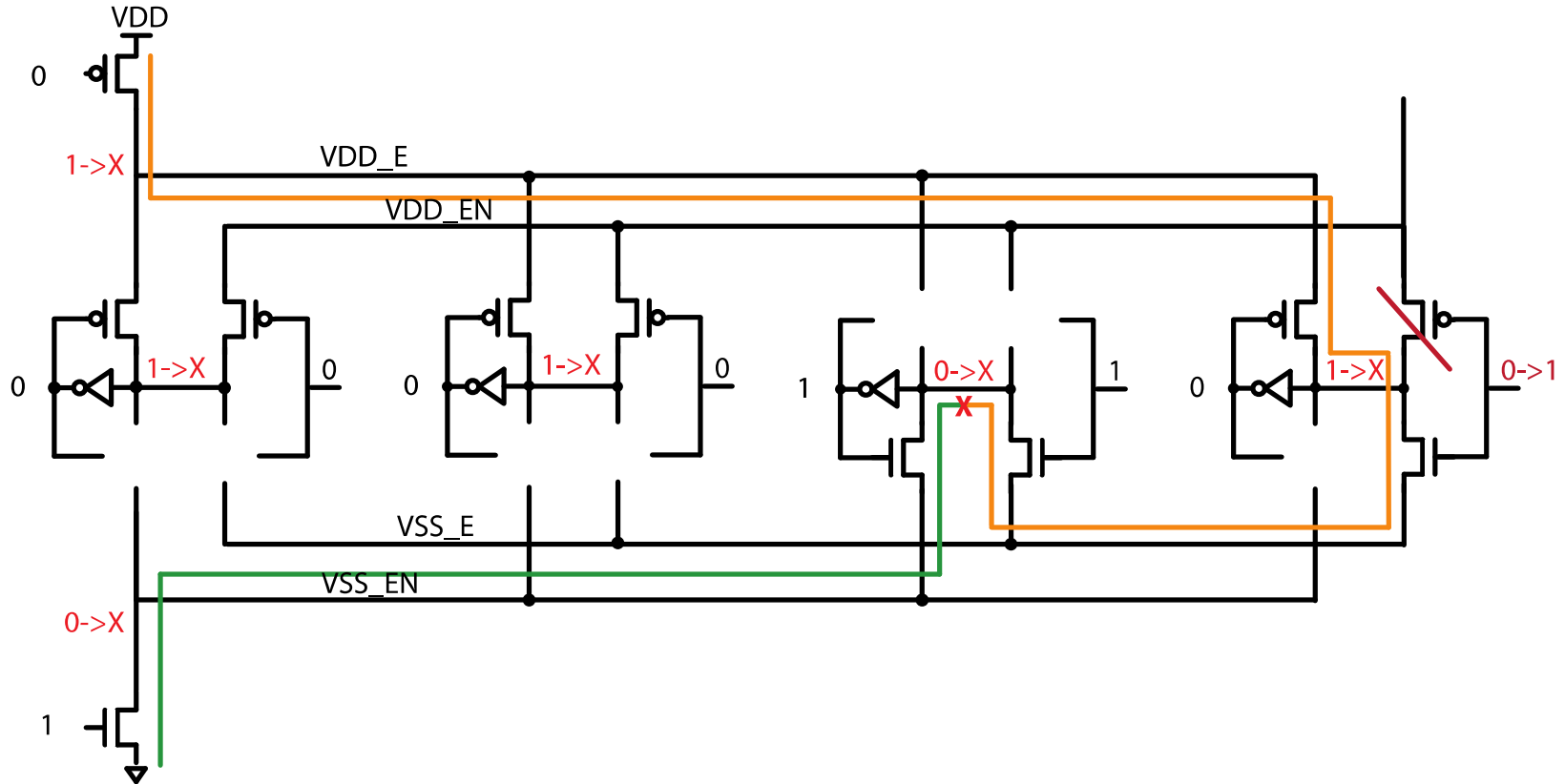
Transistors that are off have been removed.

# EN=1, D=0010



Transistors that are off have been removed.

# EN=1, D=0010 -> 0011

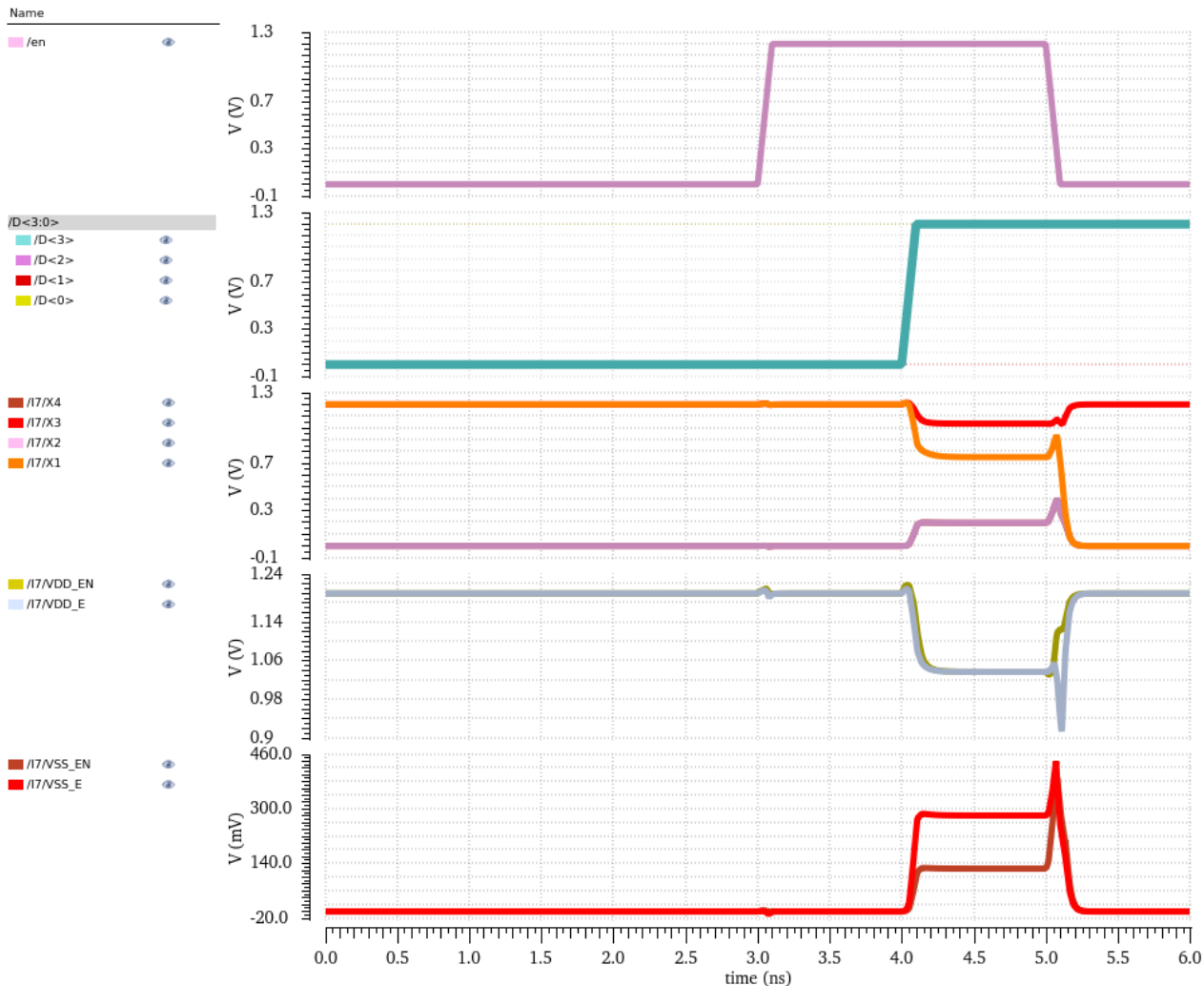


Direct path from VDD to GND causes unknown states **in all bits**.

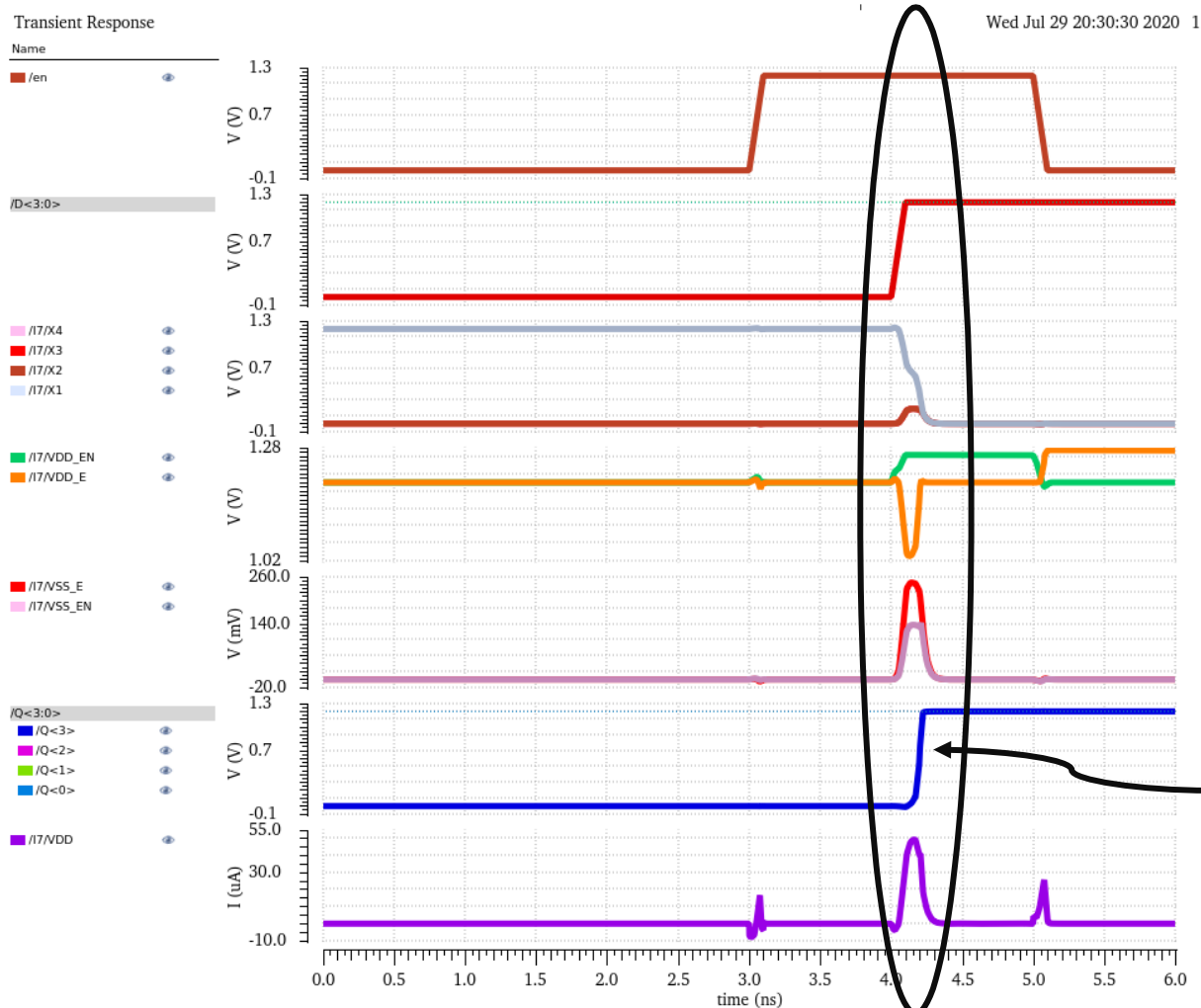
# Transient signals for 1010->1011

Transient Response

Wed Jul 29 18:01:49 2020 1



# Transient signals for 1110->1111



Bit flips before  
the clock edge