Station B: ThermoFisher MagMAX Viral/Pathogen Nucleic Acid Isolation

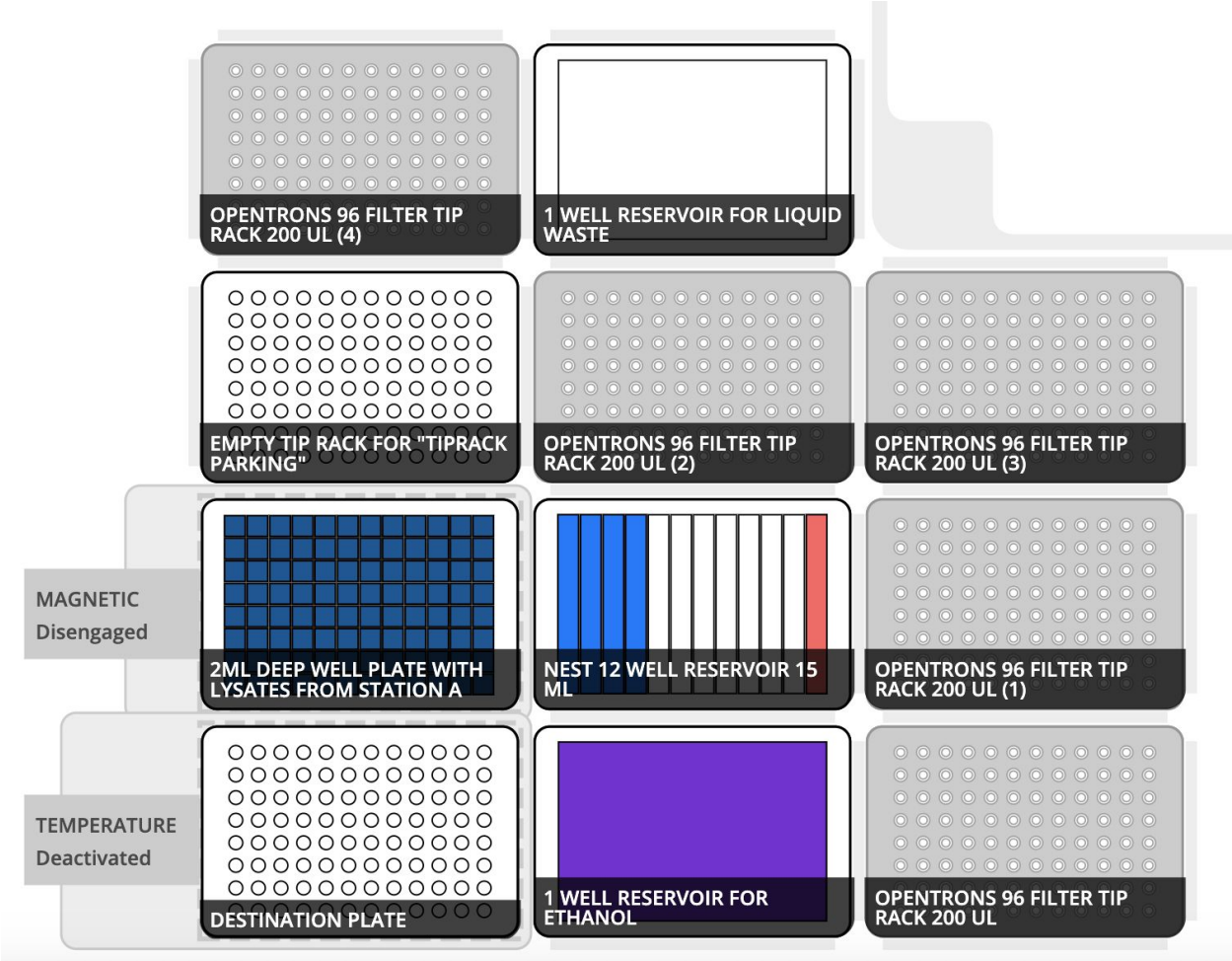
Code parameters:

- Change the sample number on line 14 (default is 8, max is 94)
- Change the elution volume on line 15 (default is 50µl)
- Change the starting volume on line 16 (default is 500µl)
- Change tiprack tracking to True or Fale on line 17 (default is False)
- Make “tiprack parking” True or False on line 18 (default is True)

Pipettes:

- P300 multichannel on the left mount

Deck layout:



Labware and module requirements:

- 1 x magnetic module
- 1 x empty 200µl tip rack for “tiprack parking”*****
- 1 x temperature module
- 1 x 2mL deep well plate **[input with lysates]**

- 5 x 200µl filter tip racks
- 2 x 1 well reservoir **[1 with wash buffer 2 (80% ethanol) in slot 2, 1 loaded empty for the liquid waste in slot 11]**
- 1 x 12 well reservoir with reagents **[Wash buffer 1 and elution solution]**
- 1 x 96 well aluminum block loaded on top of the temperature module in slot 1
- 1 x 96 well PCR plate OR PCR strip tubes to match the number of samples **[output with eluates/extractions]**

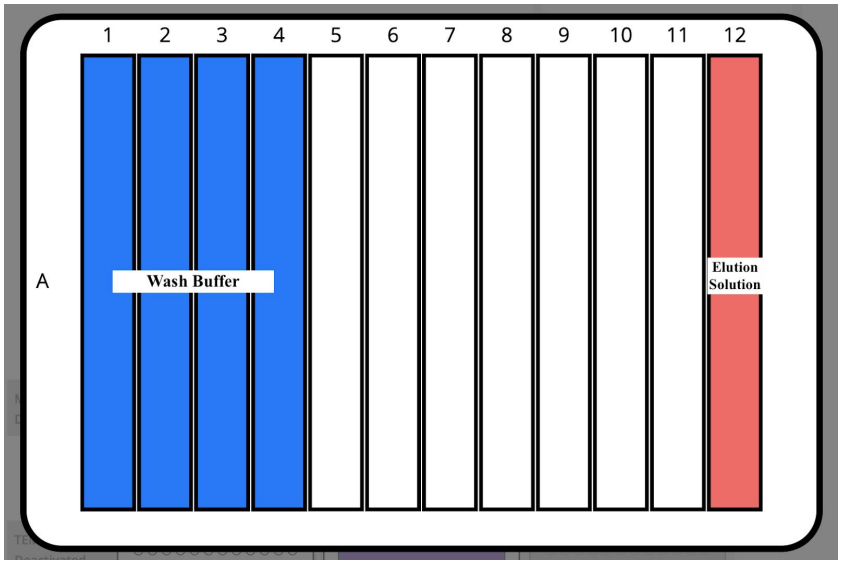
***tiprack parking means the robot is "parking" tips already used for wash buffers. A new tiprack is used to avoid contamination between used tips and unused tips. The usage of an empty tiprack enables a full 96 sample throughput run to occur without the usage of a Pause to replenish the tipracks.

Volume requirements:

***Note**: the below volumes account for a 10% overage - the dead volume can be adjusted depending on the calibration of the pipette to the labware, but it is recommended to have an overage of at least 10%*

Reagents	**Volume per sample (µl)**	**Volume for 8 samples (µL)**	**Volume for 48 samples (mL)**	**Volume for 96 samples (mL)**
Wash buffer 1	500	6,000	26	50
Wash buffer 2 (80% Ethanol)	1,000	12,000	52	100
Elution Solution	50	600	2.6	5

Slot 5 - 12 well reservoir



Before you begin:

1. Pre-cool the Temperature Module in the Opentrons App to 4°C
2. Prepare the **Binding Bead Mix**

Reagent	**Volume per sample (µL)**	**Volume for 8 samples (µL)**	**Volume for 48 samples (mL)**	**Volume for 96 samples (mL)**
Binding Solution	265	3,180	13.7	26.5
Total Nucleic Acid Magnetic Beads	10	120	0.5	1
Total Volume per sample (µL)	275	3,320	14.3	27.5

3. Add the Wash Buffer 1 and Elution Solution to the 12 well reservoir
4. Create the freshly diluted 80% ethanol for Wash Buffer 2 and add it to the 1 well reservoir
5. Place the deep well plate of lysates from Station A to on top of the magnetic module in slot 4.
6. Add a 96 well aluminum block and the 96 well PCR plate or PCR strip tubes on top of the temperature module
7. Load the **empty** 200 µl tip rack in slot 7 for “tiprack parking.”

The final plate of eluates/extractions will be found on top of the temperature module in slot 1. Once the run is complete, please proceed to Station C for RT-qPCR set up.