Instructions for Cutting Paraffin Sections

MATERIALS NEEDED:
✓ Treated microscope slides (Silane, Poly-L-lysine) or positive charge (“Plus”) slides.
✓ Slide box to hold slides with sections
✓ Artist paint brushes. The lab has some available to use, but you may want to purchase your own.
✓ Paraffin embedded samples.

1. Set water bath to 44°C. This can be set higher if tissue sections are thicker, or lower if sections break apart or the tissue is fragile.
2. Cut the block edges with a razor blade into a trapezoid to help sections cut more easily and help with section orientation.
3. Using the coarse retraction button, move arm on the microtome ALL the way back, LOCK HANDLE and insert block.
4. Use the left lever to loosen the blade holder and move blade close to, but not touching, the block. Tighten the left lever.
5. The blade is VERY SHARP. Avoid touching it with your fingers.
6. Set to “trim”, cut 30 µm sections until you start cutting into the tissue. Adjust block angle as needed. NOTE: Be sure to LOCK HANDLE to remove block, replace block or when doing any additional trimming with razor blade while on the microtome.
7. Remove tissue block and put into the water bath for a few seconds to rehydrate tissue, pat dry, and then put in the -20°C for ~5 min to harden paraffin.
8. Label charged (‘Plus’) or ‘silaned’ slides with a #2 pencil or histology marker while block is cooling.
9. Set microtome to cut (‘Feed’) 5 µm sections (or desired thickness).
10. Cut a long ribbon (as long as things go well) with enough sections for your intended number of slides.
11. Use paint brush to move ribbon to room temperature 50% ethanol (this helps spreading of tissue).
12. Use razor blade to cut ribbon into the desired number of sections for each slide.
13. Pick sections up with a large untreated slide, move to warm water bath (set to 44°C), and let them float.
14. Pick up section by moving a labeled, treated slide underneath and lifting it up into the tissue at an angle (this requires practice). NOTE: you cannot reposition sections once they adhere to the slides!
15. Tap off excess water and dry bottom of slide, place slide in rack to drain and then move slides to slide warmer (set at ~44°C).
16. Leave overnight on slide warmer to dry.