

Figure Attributions

The figures in the dissertation, except those indicated below, were generated by myself, Angela Saadat, using Microsoft PowerPoint, Excel, JMP statistical software by SAS, Softworx, BioRender and BioRad's Image Lab software. The figures I did not create are figures 1.3A, 3.7, 4.8, 3.2, 3.5, 3.6ABC. Those I created based on publication images are Figures 3.3, 3.4, 6.1. And images created with online tools are figures 1.4B, 4.6A and 5.1B. This is stated in the dissertation text in both chapter acknowledgements and in the figure captions. I did not profit financially from the use of any of the figures and my intent for their use is purely educational.

Dr. Melville generated Figures 1.3A, 3.7 and the initial version of 4.8, which I modified. These figures are used with his permission (email below).

The data and graphs in Figures 3.2, 3.5, 3.6A and 3.6B were generated by former Melville laboratory student Andrea Hartman and Figure 3.6C by former student Will Hendrick. These data are unpublished and are used in the dissertation with Dr. Melville's permission (email below).

Figure 1.1 was initially generated by myself as part of a teaching assistantship assignment for the Pathogenic Bacteriology Lab manual. Permission for its use was obtained from Katrina Lasley December 9, 2020 (email below).

Online software was used to generate Figures 1.4B, 4.6A and 5.1B. For Figure 1.4B, SWISS-MODEL was used to generate the model of TpeL against the TcdA1-833 sequence [1] and PyMOL (The PyMOL Molecular Graphics System, Version 1.2r3pre, Schrödinger, LLC) was used to color the domains of TpeL. The amphipathic helical wheel in Figure 4.6A was generated with the online HeliQuest tool (<https://heliquest.ipmc.cnrs.fr/>) [2]. The RNA structures in 5.1B were generated with the RNAfold web server (<http://rna.tbi.univie.ac.at/cgi-bin/RNAWebSuite/RNAfold.cgi>) [3].

To avoid copyright infringement, I generated the images in Figures 3.3, 3.4, 6.1 in PowerPoint and BioRender (www.biorender.com) based on images in their original publications [3,4,5, respectively].

[1] N. Guex, M.C. Peitsch, T. Schwede. Automated comparative protein structure modeling with SWISS-MODEL and Swiss-PdbViewer: a historical perspective. *Electrophoresis* 30 Suppl 1 (2009) S162-73.

[2] R. Gautier, D. Douguet, B. Antonny, G. Drin. HeliQuest: a web server to screen sequences with specific alpha-helical properties. *Bioinformatics* 24 (2008) 2101-2.

[3] P. Kerpedjiev, S. Hammer, I.L. Hofacker. Forna (force-directed RNA): Simple and effective online RNA secondary structure diagrams. *Bioinformatics* 31 (2015) 3377-9.

[4] S. Melville, L. Craig. Type IV pili in gram-positive bacteria. *Microbiol Mol Biol Rev* 77 (2013) 323-41.

[5] Y.W. Chang, L.A. Rettberg, A. Treuner-Lange, J. Iwasa, L. SØgaard-Andersen, G.J. Jensen. Architecture of the type IVa pilus machine. *Science* 351 (2016) aad2001.

[6] R.N. Pruitt, N.M. Chumbler, S.A. Rutherford, M.A. Farrow, D.B. Friedman, B. Spiller, et al. Structural determinants of *Clostridium difficile* toxin A glucosyltransferase activity. J Biol Chem 287 (2012) 8013-20.

permission to use this figure in my dissertation

Inbox



Angela Saadat <saadat13@vt.edu>

Wed, Dec 9, 11:16
AM (5 days ago)

to Katrina

Hi Katrina,

Quick question:

May I use the diagram of *C. perfringens* that I made last summer for the Patho manual in my dissertation?

I'm finishing up the revisions to my dissertation, and ran into this question of copyright permissions. It's for "educational purposes," so falls into that not-infringing category, but perhaps it is more polite to ask. :D

Thank you,
Angie



Katrina Lasley

Wed, Dec 9, 12:21
PM (5 days ago)

to me, kkorcel

Angie,

Sure you can use the diagram if it will help you out.

Good luck finishing up,
Katrina



Great, thank you so much!

Thank you so much!

Thank you!

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Inbox



**An
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12:22 PM (6
minutes ago)

Hi Dr. Melville, I am writing to ask permission to use the figures that I used in my dissertation that belong to you



Steve Melville

12:25 PM (2
minutes ago)

to me

Hi Angie, you have my permission to use all of the figures that I made that are in your dissertation.

Steve

Stephen Melville, Ph.D.

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