

# M2D6: Analyze DSF data and outline figures

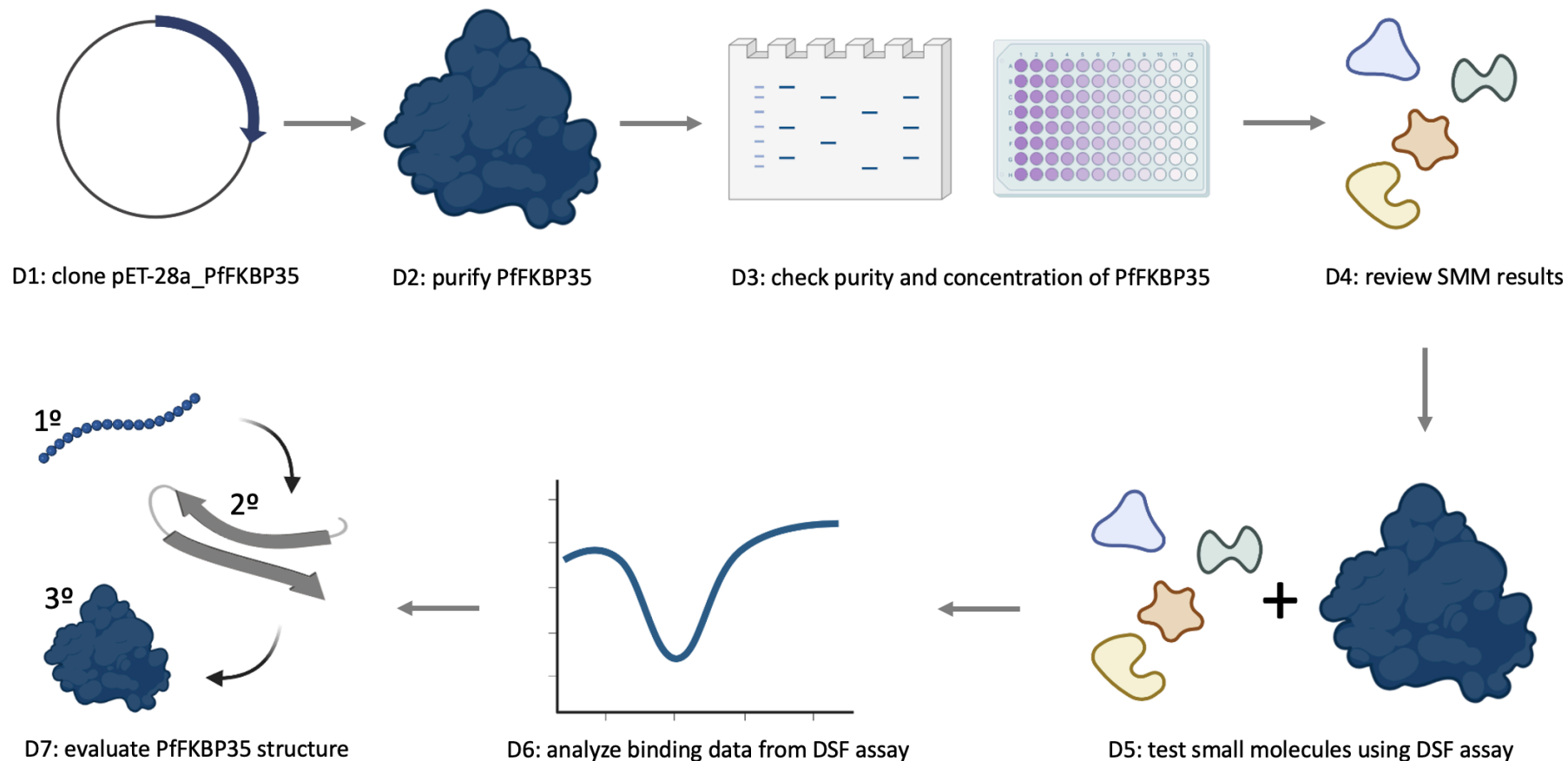
1. Prelab
2. Analyze DSF data and record  $T_m$  on wiki
3. Work on figure outlines for Research Article



Sign up for timeslot to discuss your Journal article Presentation with Noreen  
do not sign up during your lab time

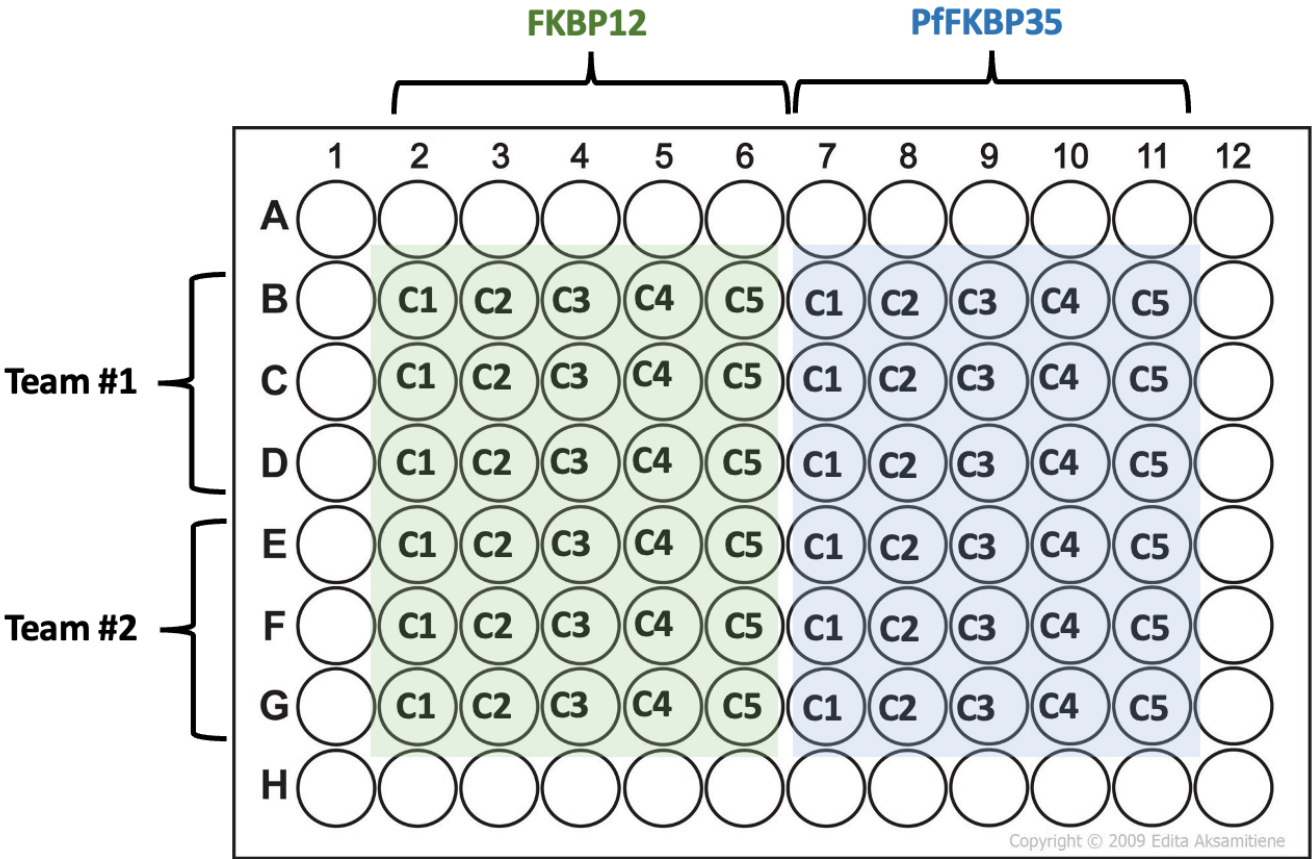
# Mod2 Overview

Research goal: Test small molecules for binding to the *Plasmodium falciparum* FKBP35 protein using a functional assay.



# General plate outlines

	Compound #1	Compound #2	Compound #3	Compound #4	Compound #5
TR Yellow	DMSO	rapamycin	FK101	FK141	FK150
TR Green	DMSO	FK506	FK150	FK201	FK459
TR Blue	DMSO	rapamycin	FK296	FK401	FK502
TR Pink	DMSO	FK506	FK169	FK189	FK301
TR Purple	DMSO	rapamycin	FK101	FK169	FK502
WF Yellow	DMSO	FK506	FK189	FK301	FK459
WF Green	DMSO	rapamycin	FK150	FK201	FK502
WF Blue	DMSO	FK506	FK141	FK296	FK401
WF Pink	DMSO	rapamycin	FK101	FK169	FK459



# Analyze files from DSF runs to generate data for Research Article

1. Each group has 2 .xml format files.
  1. Melt Curve
  2. Tm Calling
2. Open them with excel.
3. Plot the data from the files.

A1								
	A	B	C	D	E	F	G	H
1	/chart							
2	/series/@color	/series/@title	/series/@type	/series/#id	/series/points/@count	/series/points/point/@X	/series/points/point/@Y	
3	#0080FF	B2: Sample 14	Line	1	602	29.99	22.87044016	
4	#0080FF	B2: Sample 14	Line	1	602	30.05	22.83724515	
5	#0080FF	B2: Sample 14	Line	1	602	30.16	22.7914773	
6	#0080FF	B2: Sample 14	Line	1	602	30.27	22.7914319	
7	#0080FF	B2: Sample 14	Line	1	602	30.33	22.7624229	
8	#0080FF	B2: Sample 14	Line	1	602	30.39	22.74172188	
9	#0080FF	B2: Sample 14	Line	1	602	30.55	22.64675946	
10	#0080FF	B2: Sample 14	Line	1	602	30.66	22.59646411	
11	#0080FF	B2: Sample 14	Line	1	602	30.72	22.53774686	
12	#0080FF	B2: Sample 14	Line	1	602	30.89	22.49573701	
13	#0080FF	B2: Sample 14	Line	1	602	31	22.44952261	
14	#0080FF	B2: Sample 14	Line	1	602	31.06	22.39075992	
15	#0080FF	B2: Sample 14	Line	1	602	31.16	22.31929394	
16	#0080FF	B2: Sample 14	Line	1	602	31.27	22.26036547	
17	#0080FF	B2: Sample 14	Line	1	602	31.38	22.21388888	
18	#0080FF	B2: Sample 14	Line	1	602	31.39	22.13016762	
19	#0080FF	B2: Sample 14	Line	1	602	31.49	22.08378945	
20	#0080FF	B2: Sample 14	Line	1	602	31.65	22.01211513	
21	#0080FF	B2: Sample 14	Line	1	602	31.71	21.95749471	
22	#0080FF	B2: Sample 14	Line	1	602	31.82	21.86445912	
23	#0080FF	B2: Sample 14	Line	1	602	31.92	21.82211103	
24	#0080FF	B2: Sample 14	Line	1	602	31.98	21.74181703	
25	#0080FF	B2: Sample 14	Line	1	602	32.14	21.66990007	
26	#0080FF	B2: Sample 14	Line	1	602	32.19	21.60638406	
27	#0080FF	B2: Sample 14	Line	1	602	32.29	21.53858367	
28	#0080FF	B2: Sample 14	Line	1	602	32.41	21.47072907	
29	#0080FF	B2: Sample 14	Line	1	602	32.51	21.39484915	
30	#0080FF	B2: Sample 14	Line	1	602	32.62	21.32692474	
31	#0080FF	B2: Sample 14	Line	1	602	32.72	21.26738218	
32	#0080FF	B2: Sample 14	Line	1	602	32.88	21.20722269	

# Plot melt curves from DSF data

Well

Temperature

Fluorescence unit

A1								
	A	B	C	D	E	F	G	H
1	/chart							
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30	#0080FF	B2: Sample 14	Line	1	602	32.62	21.32692474	
31	#0080FF	B2: Sample 14	Line	1	602	32.72	21.26738218	
32	#0080FF	B2: Sample 14	Line	1	602	32.88	21.20722269	

FKBP12 FKBP35 broad 2 Melt Curv

Ready

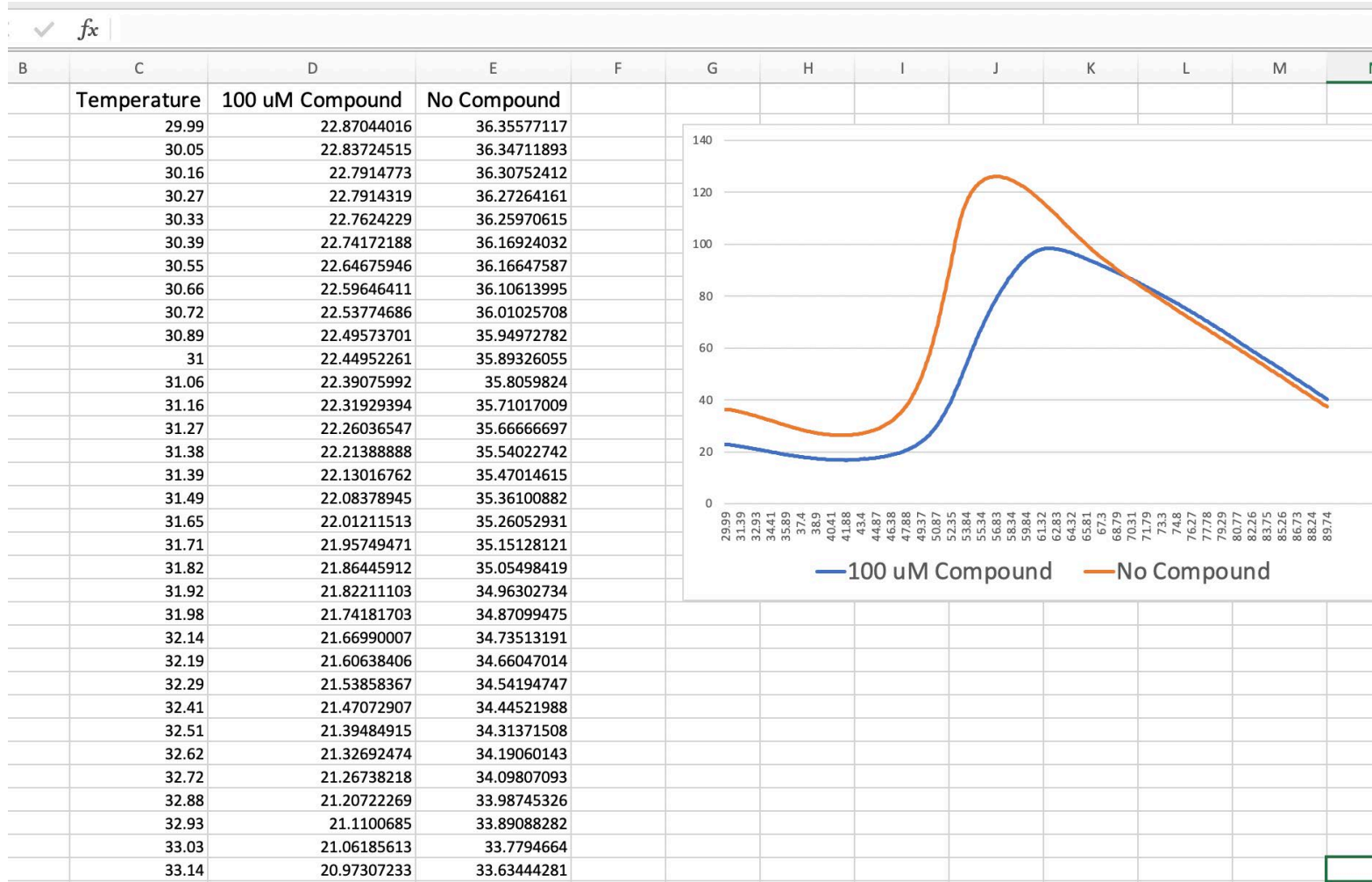
Copy these from individual wells to plot

Average technical replicates together

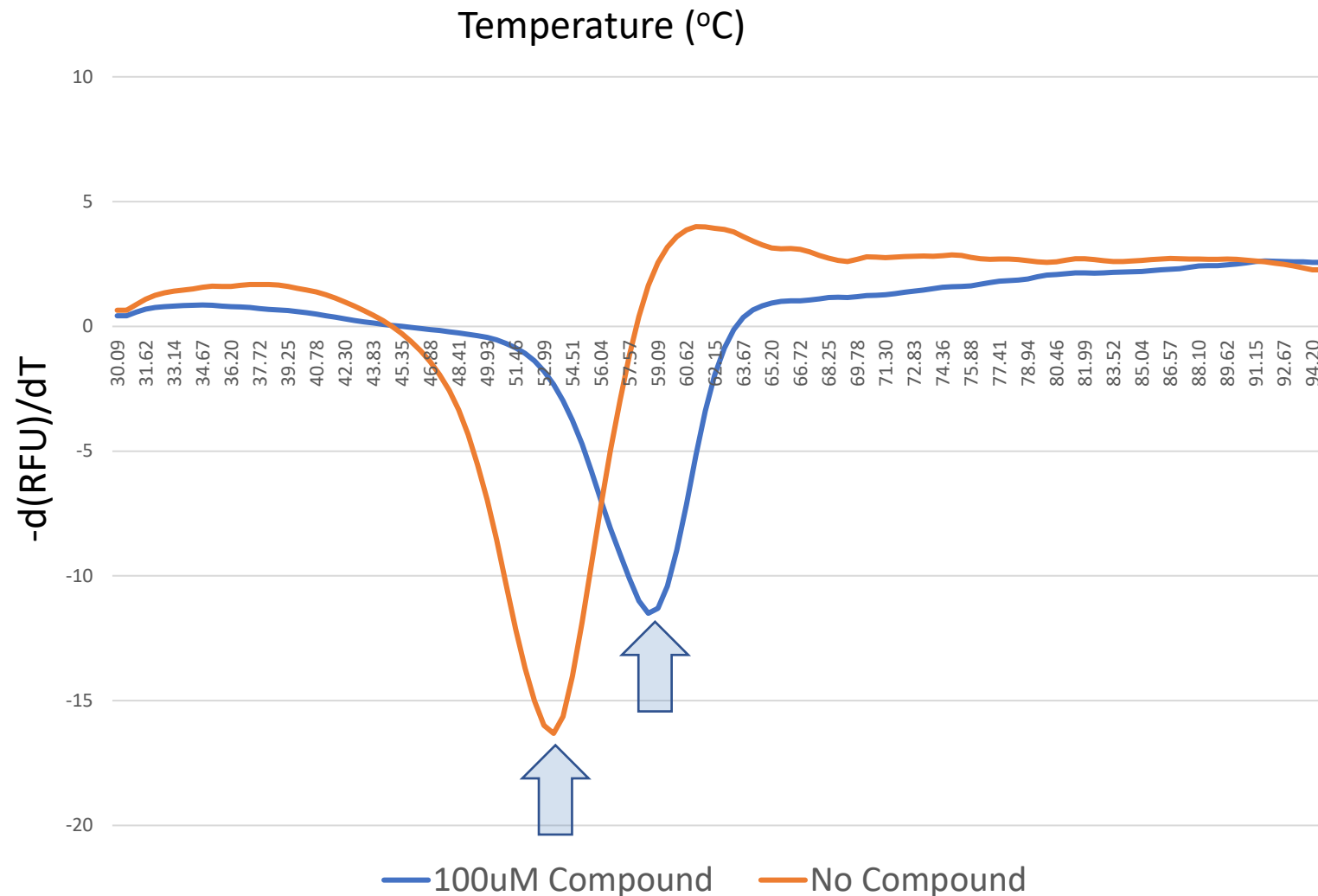
No statistics



# Melt curve plot example



Plot negative first derivative of fluorescence/time to call  $T_m$  for each compound



RFU= relative fluorescence units

- Mark down the temperature at the inverse peak.
  - These are your  $T_m$  values.
- $\Delta T_m = T_m$  of 100uM Compound –  $T_m$  of No Compound
- Record the  $T_m$  values for your group on the Class Data page for the Wiki

# For Today

- Analyze data
- Work on figure outline

# For M2D7 (Next Wednesday)

- Create overview schematic of project for Mod2 (Visual Abstract)
  - High level look at the approach to the project overall instead of a single experiment
- Answer questions to prepare for the discussion section of your Research Article