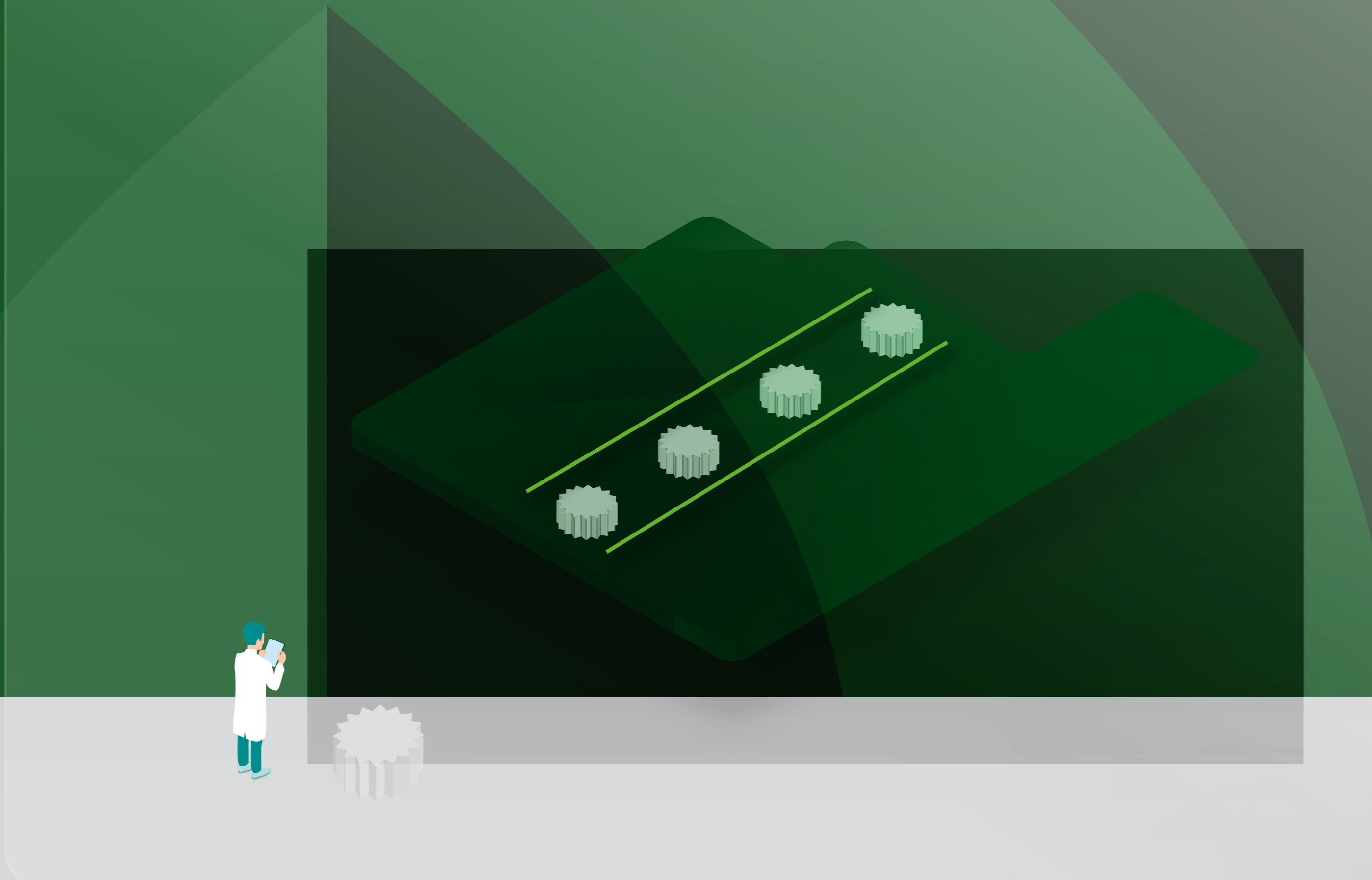


# Benchmark Analysis

NZYSupreme qPCR Green Master Mix  
Product No MB419

Detection of b2m and Large1



-  Molecular biology
-  Molecular diagnostics
-  CAZymes
-  Analytical products
-  Molecular services

## Two Real-Time PCR Experiments

**NZYSupreme qPCR Green Master Mix** was benchmarked against a total of 9 market-leading green master mixes considered to be the gold-standard in qPCR Master Mixes.

### Detection of b2m from mouse cDNA

- I A 5-fold serial dilution of cDNA reverse transcribed from total mouse liver was used as template for a real time qPCR experiment to detect the b2m housekeeping gene.

### Detection of Large1 from human gDNA

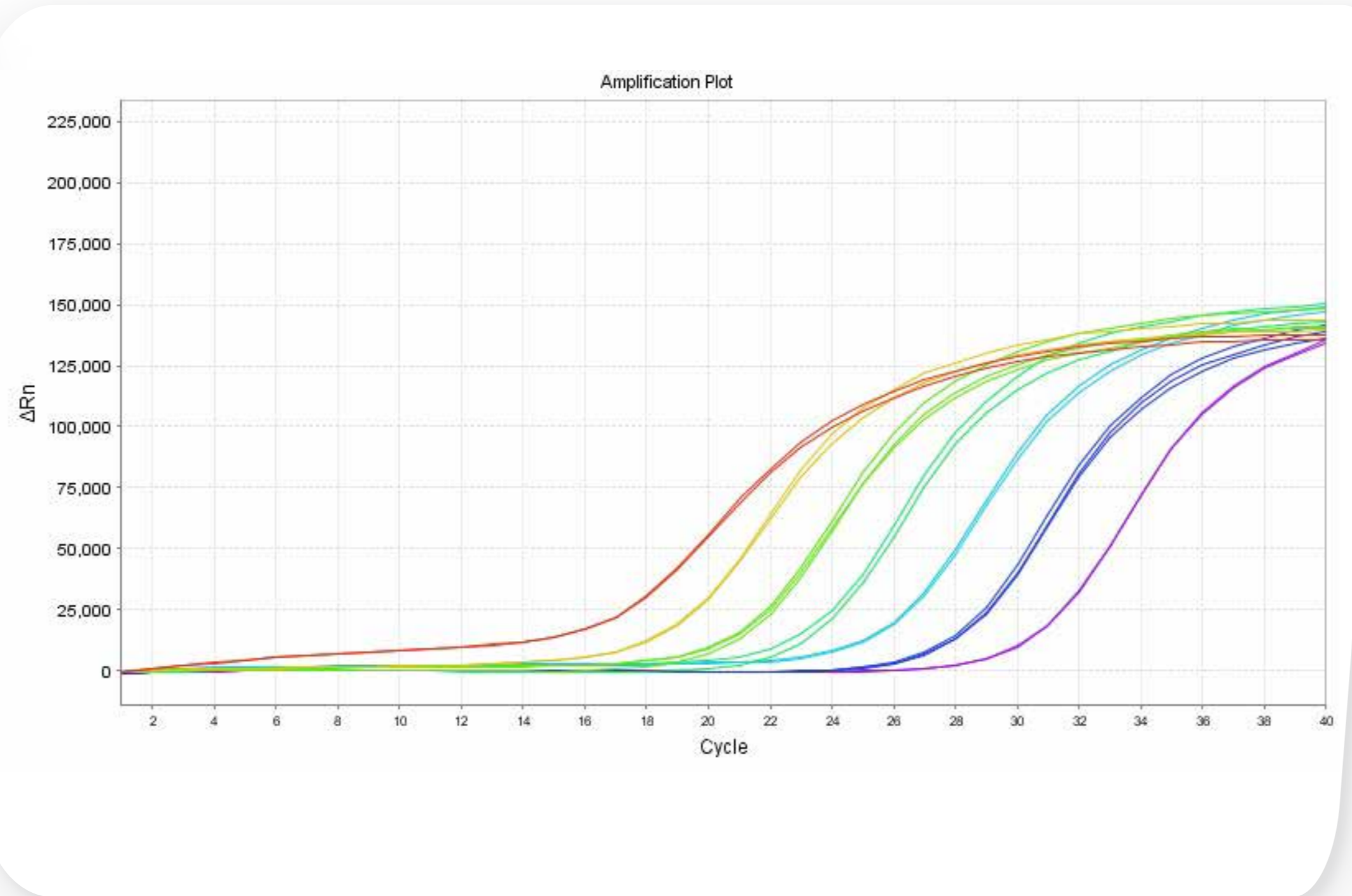
- II A 5-fold serial dilution of human genomic DNA was used as template for a real time qPCR experiment to detect a region from the Large1 gene, which encodes a member of the N acetylglucosaminyltransferase family and is ubiquitous expressed in different human tissues.

# Detection of b2m from mouse cDNA - Amplification Plot

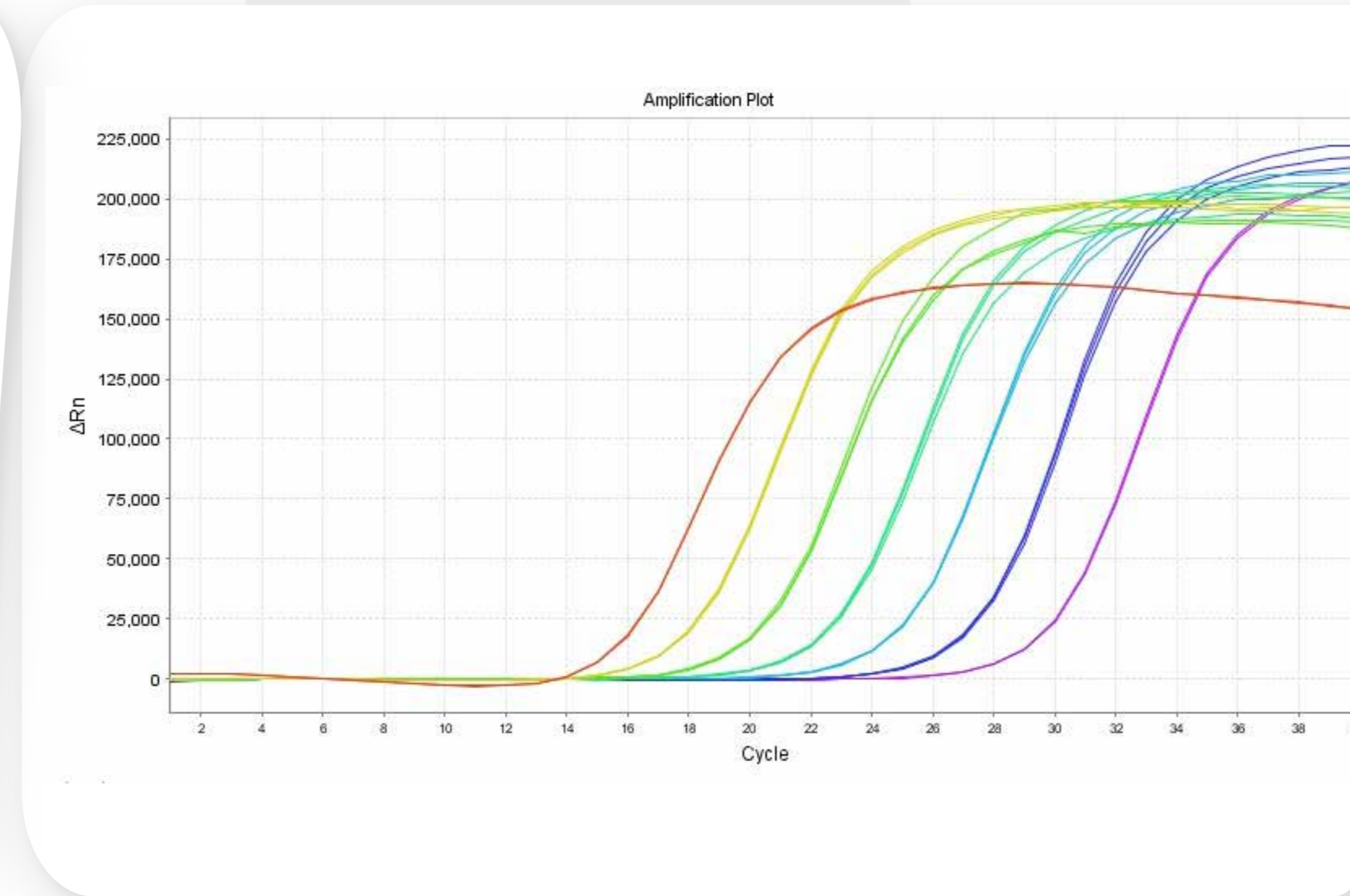
Excellent sensitivity and linearity in the amplification using a 5-fold serial dilution of cDNA reverse transcribed from total mouse liver.

NZYTECH | #MB419

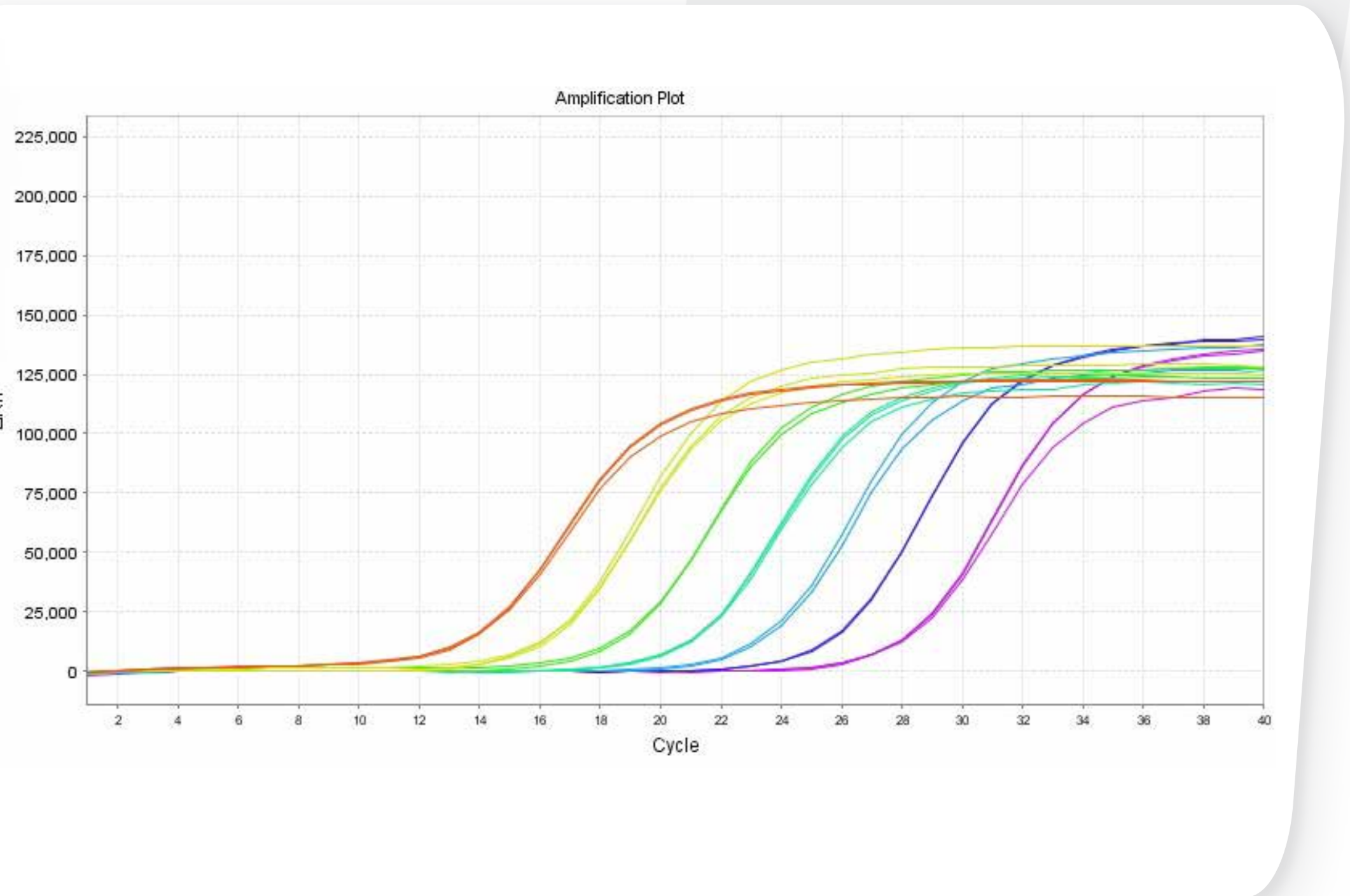
Competitor AB



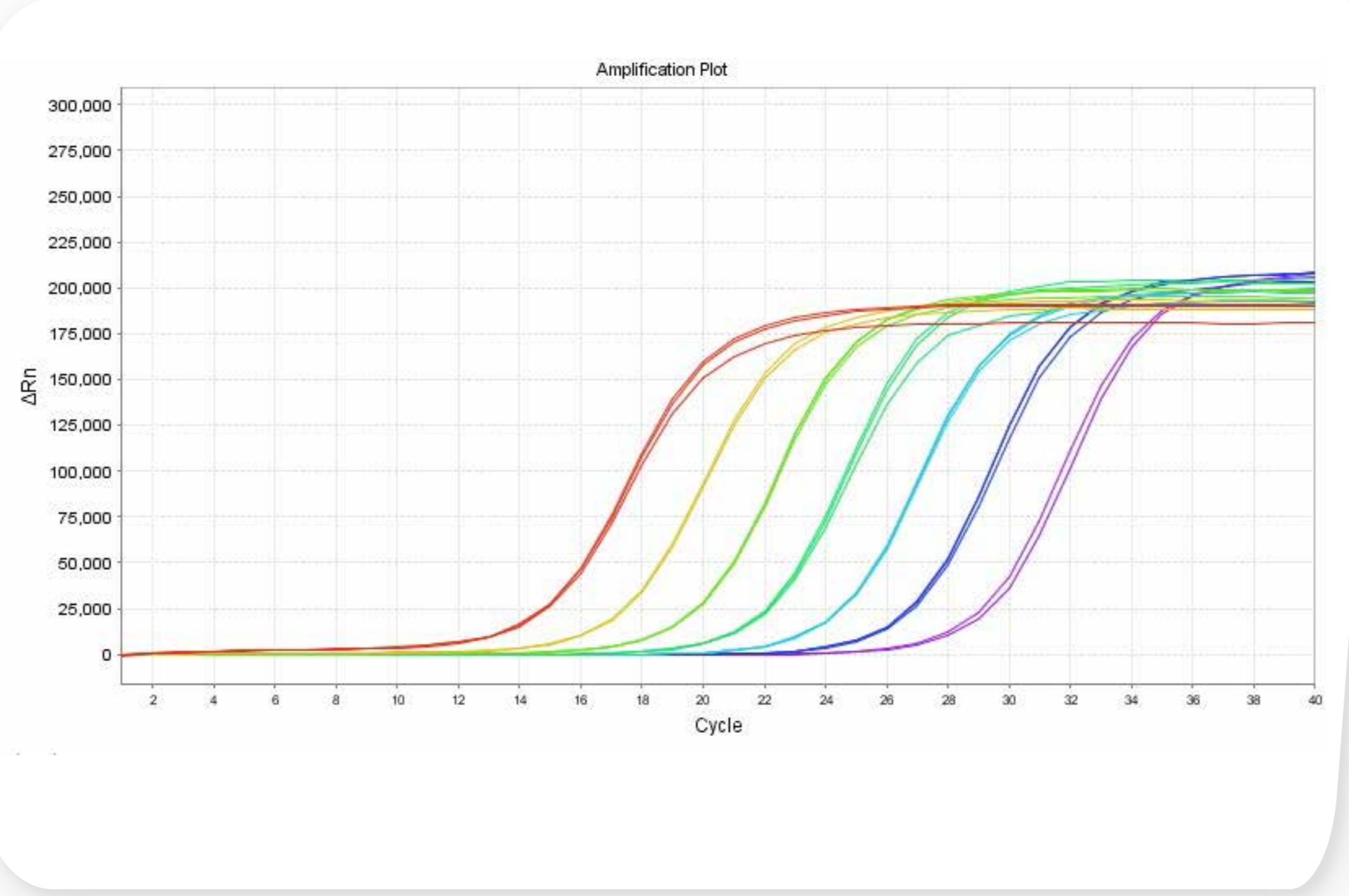
Competitor B



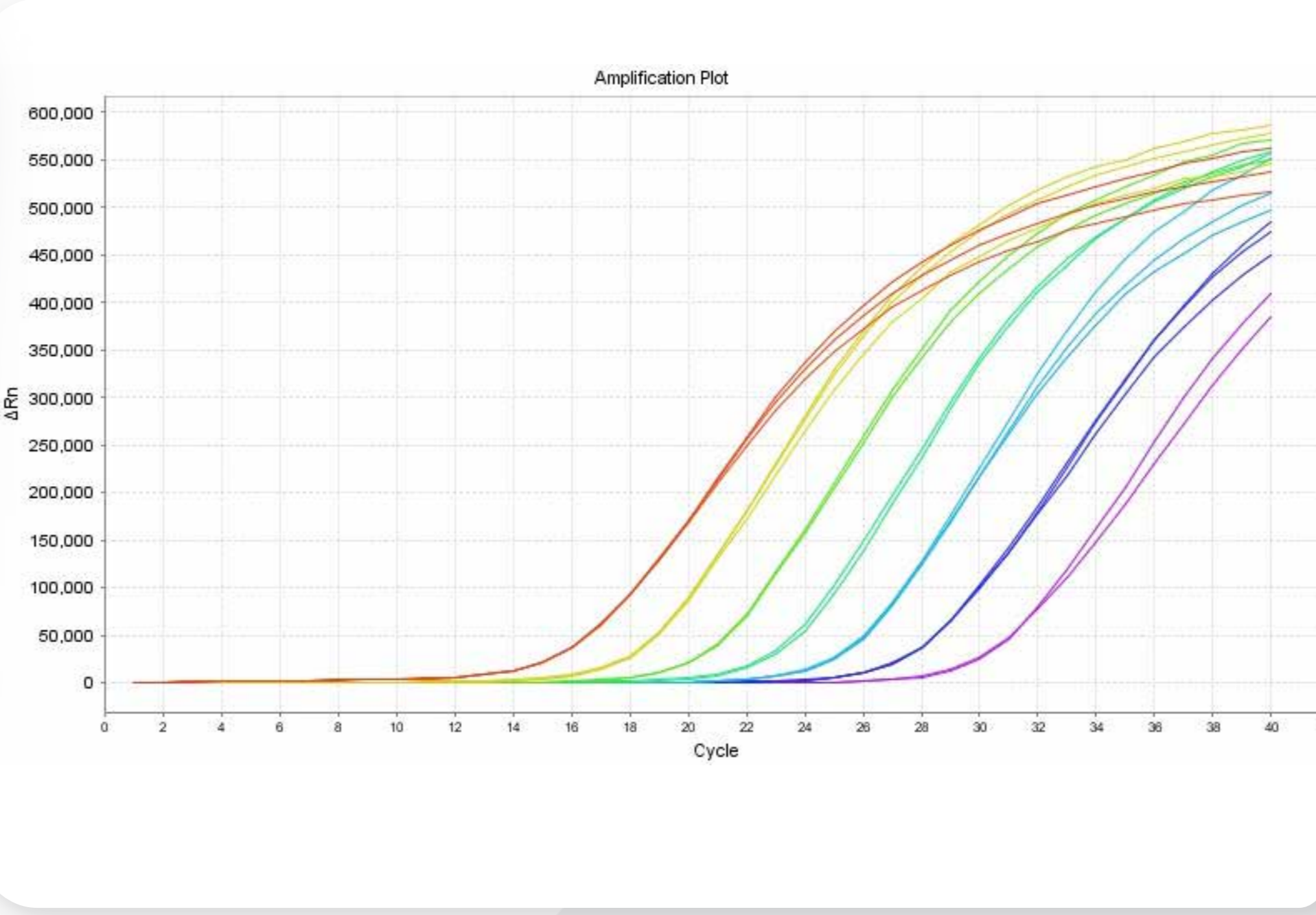
Competitor N



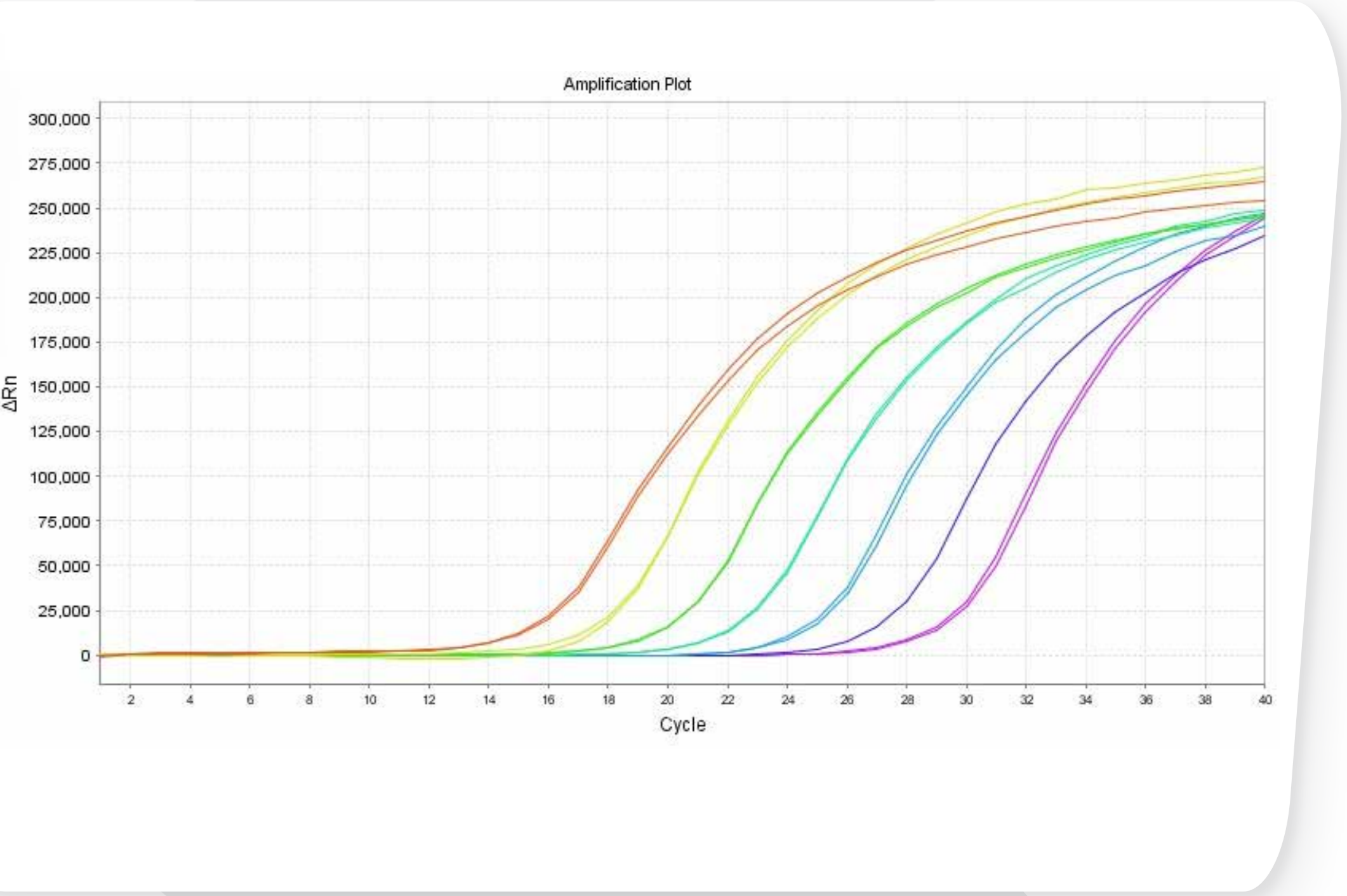
Competitor PB



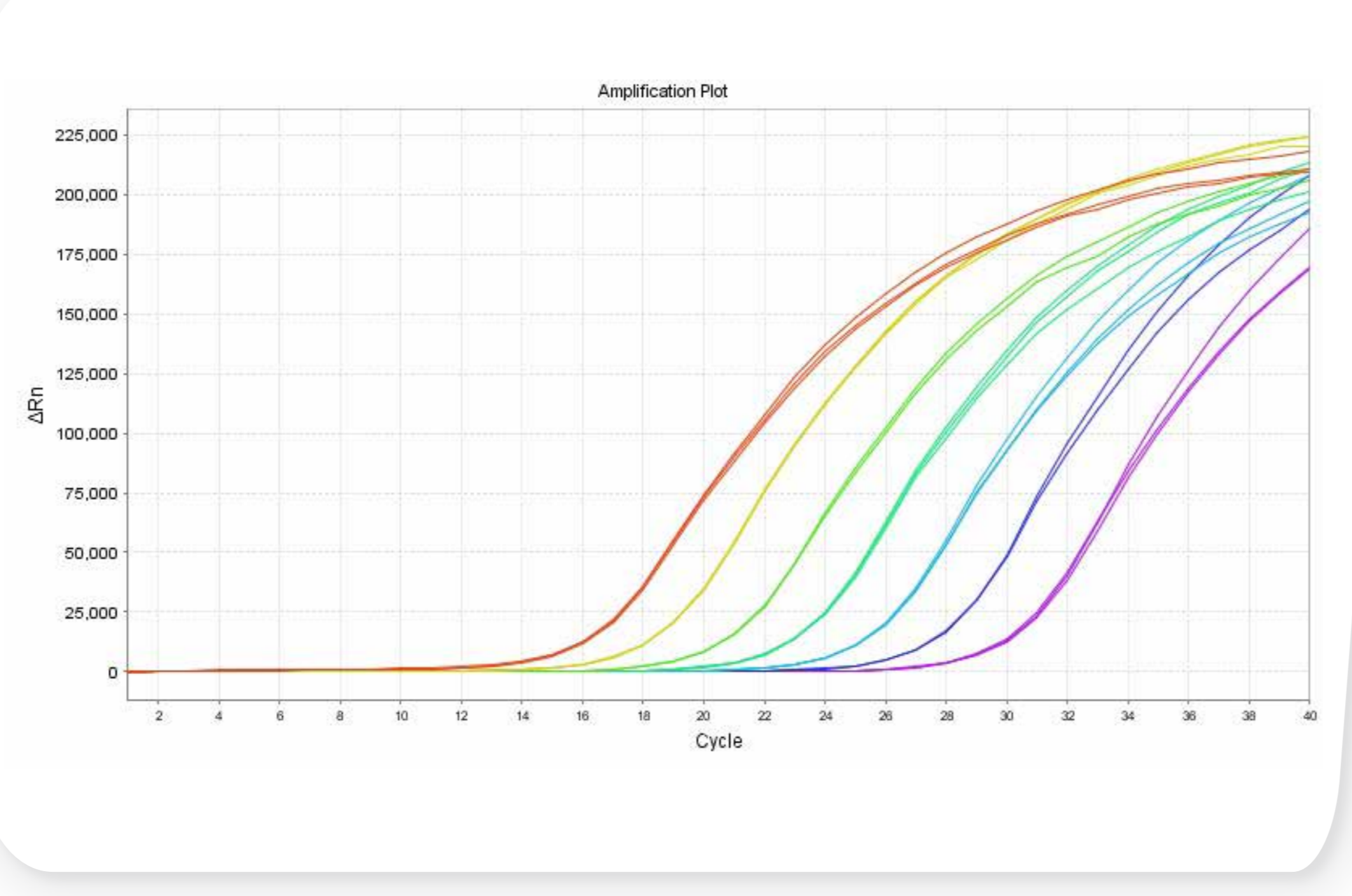
Competitor P



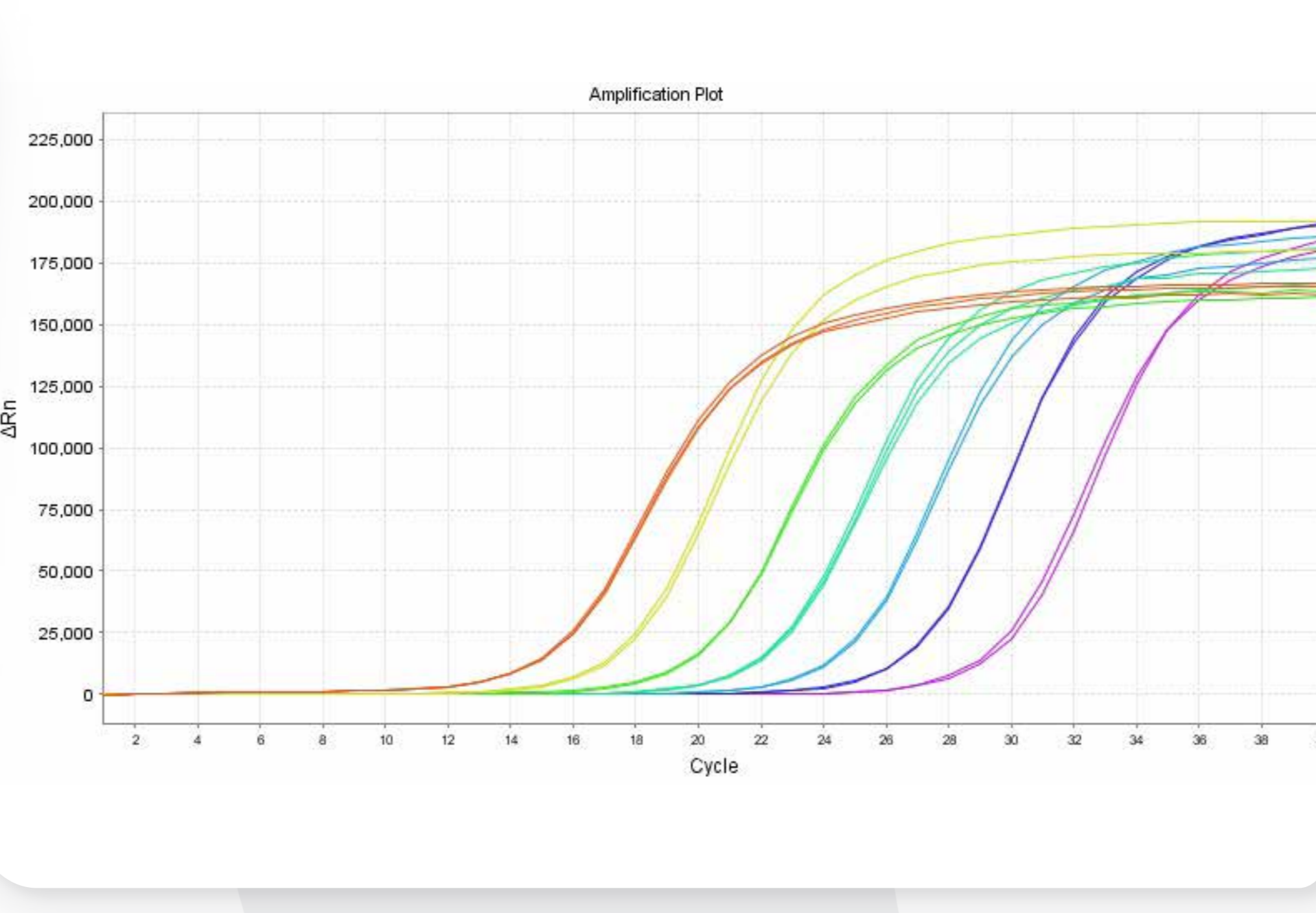
Competitor Q



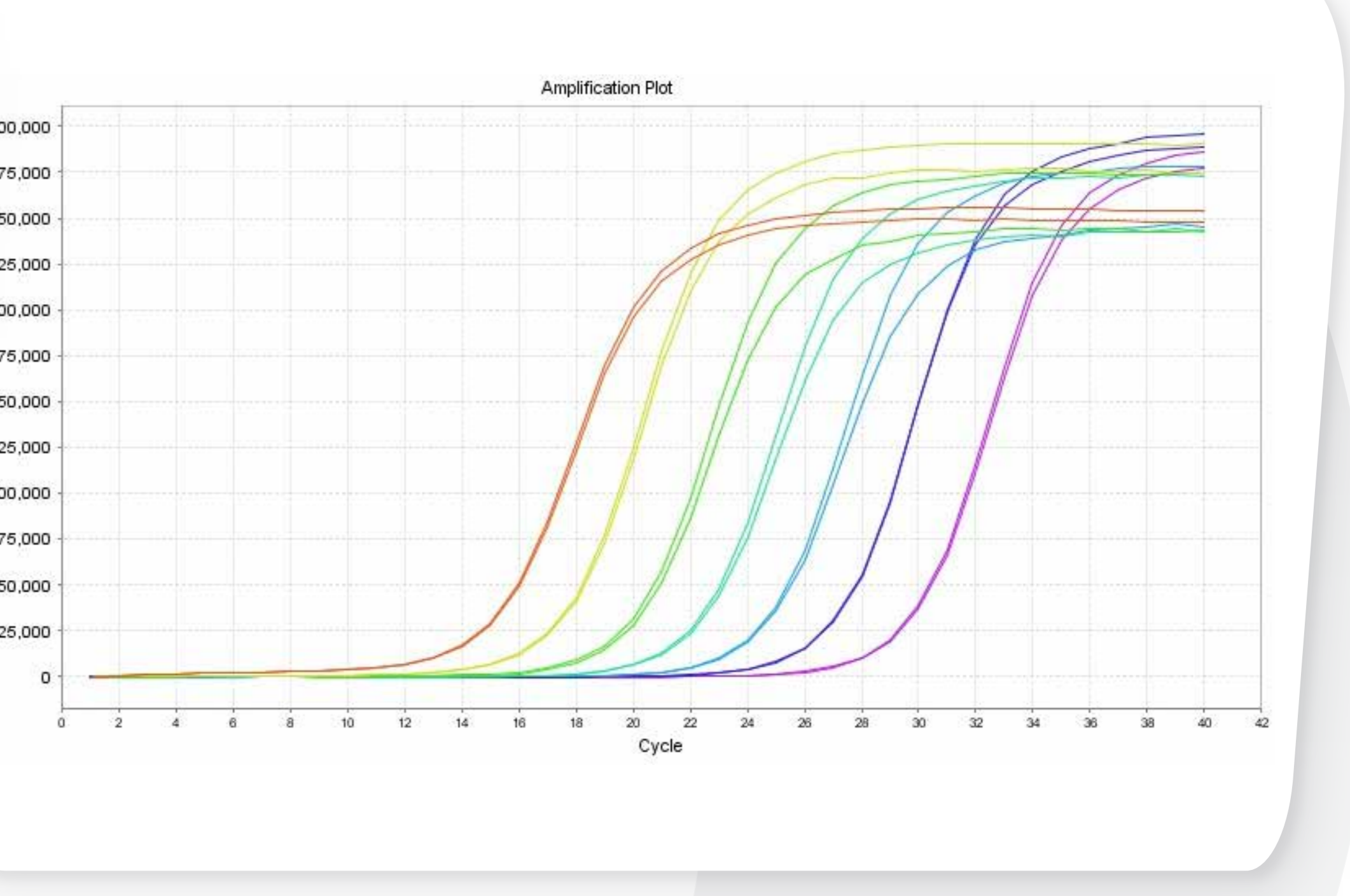
Competitor QB



Competitor T



Competitor MB



# Detection of b2m from mouse cDNA - Melt Curve

The exceptional specificity of NZYSupreme qPCR Green Master Mix (MB419) is evidenced by the single specific melting peak observed for all dilution series.

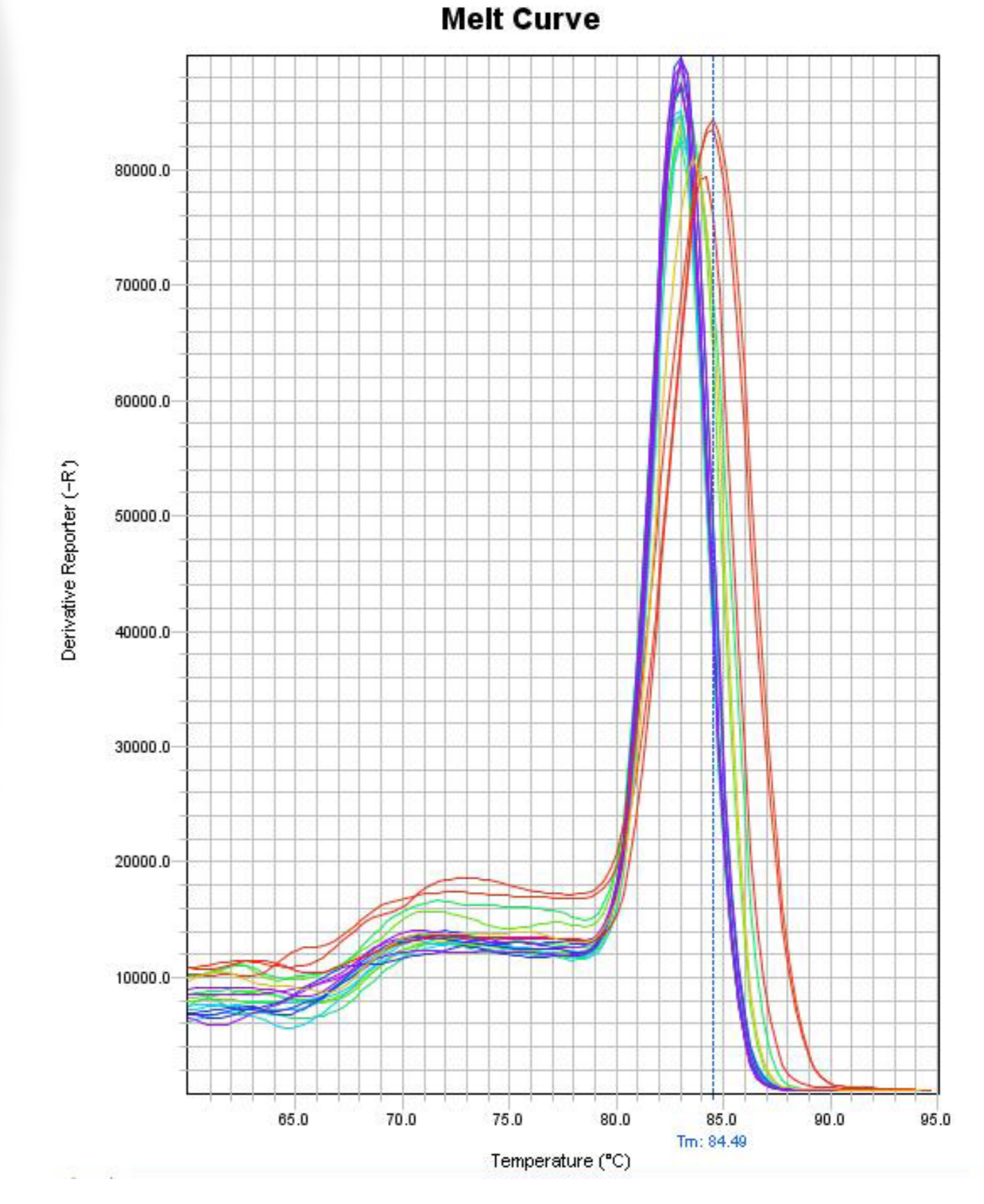
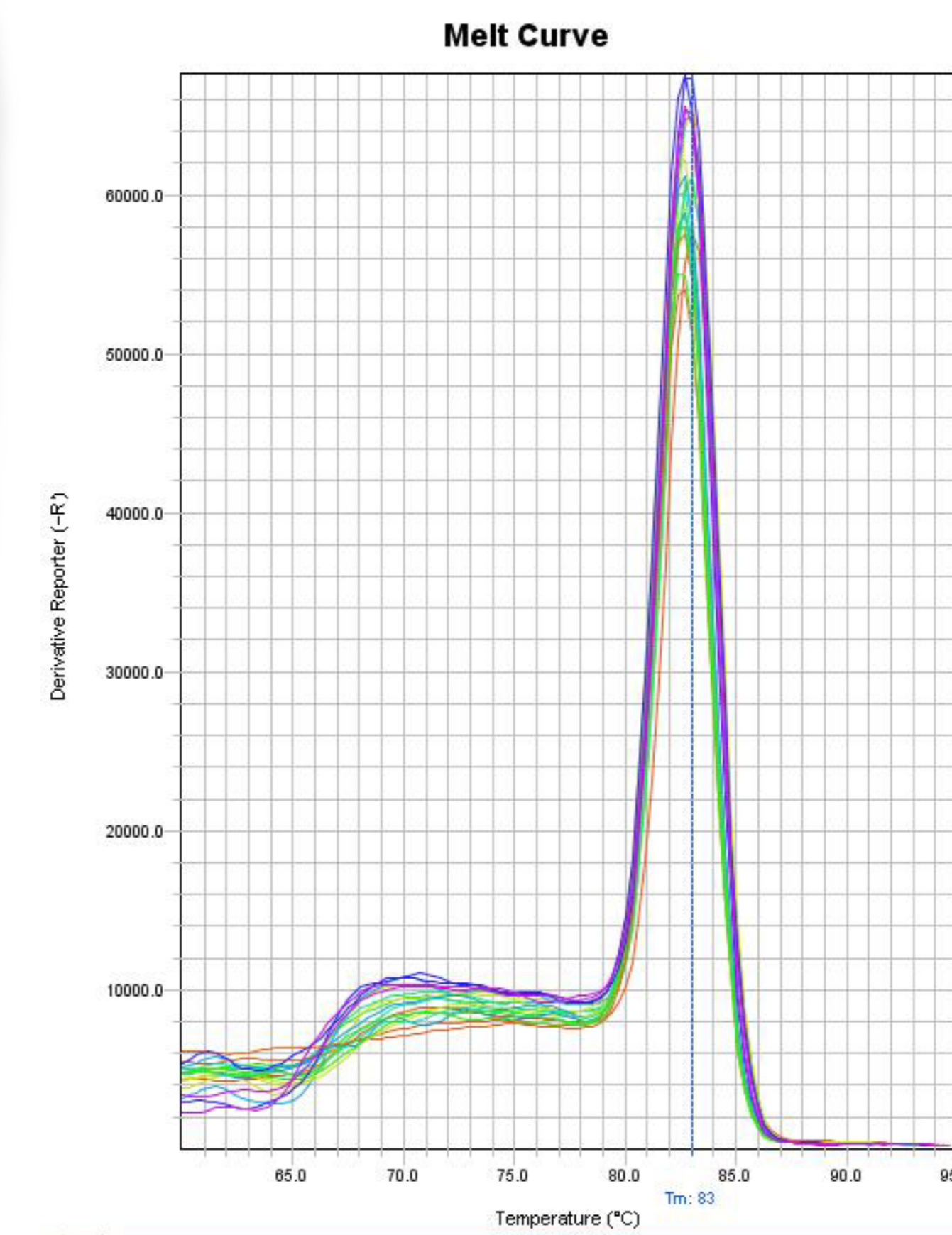
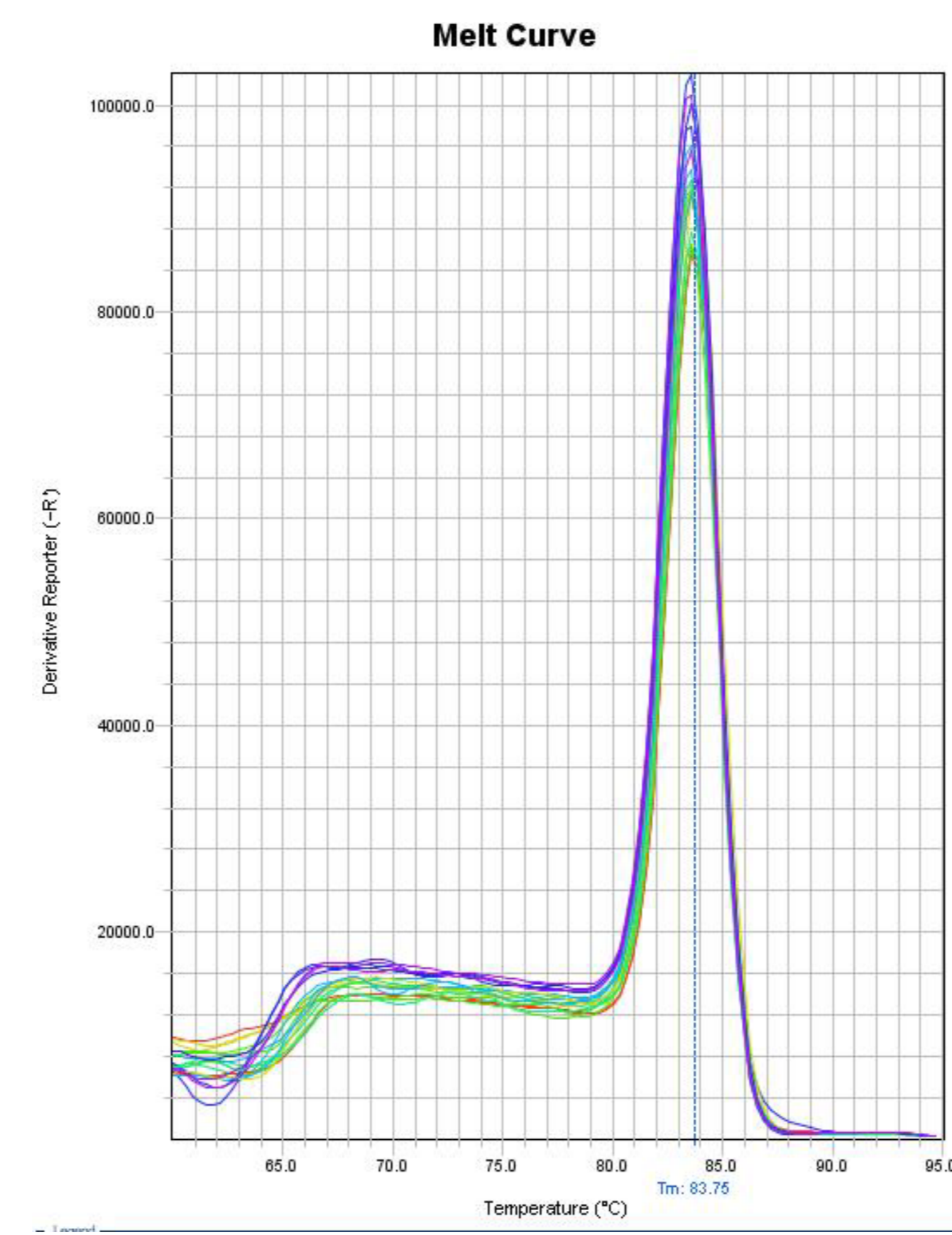
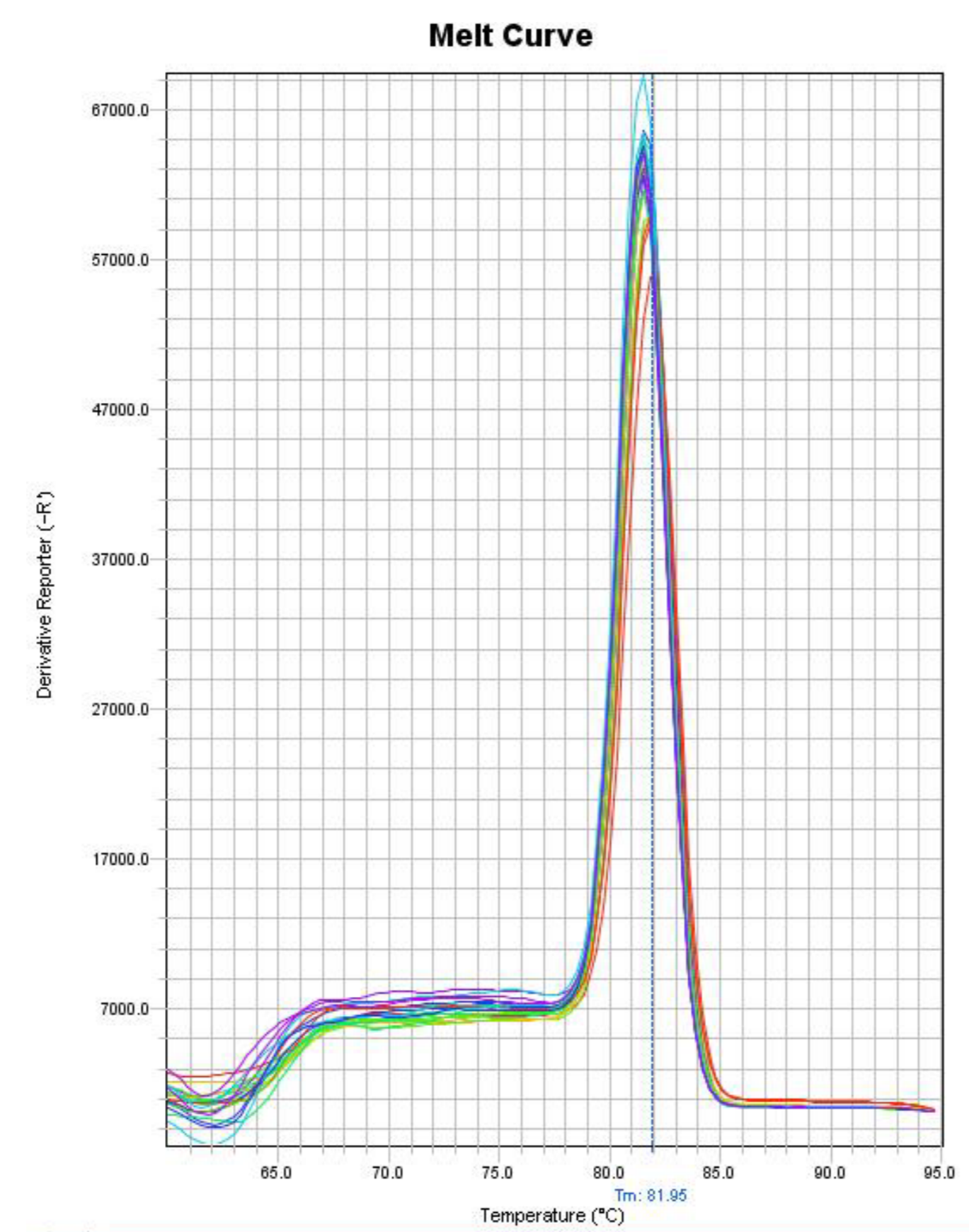
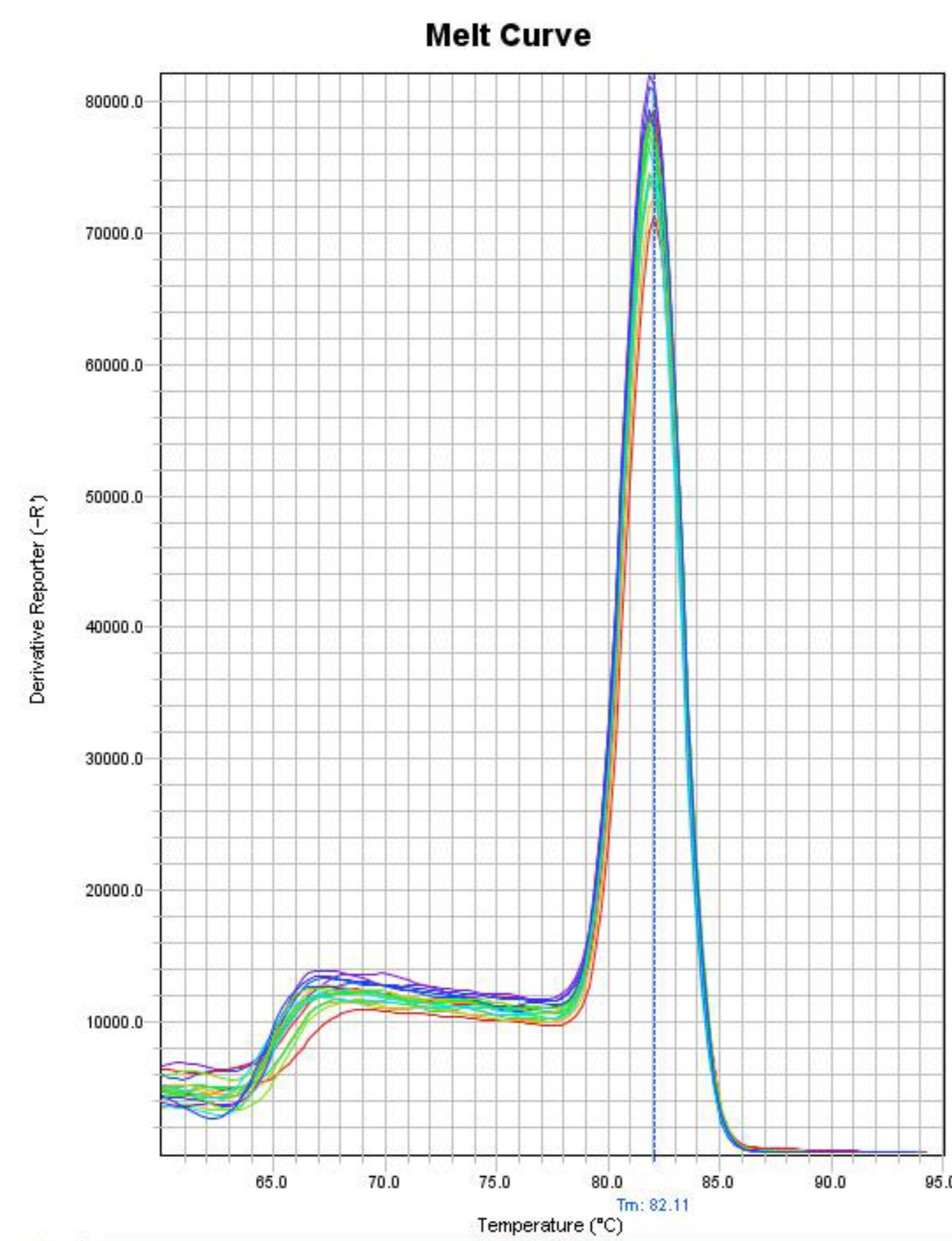
NZYTech | #MB419

Competitor AB

Competitor B

Competitor N

Competitor PB



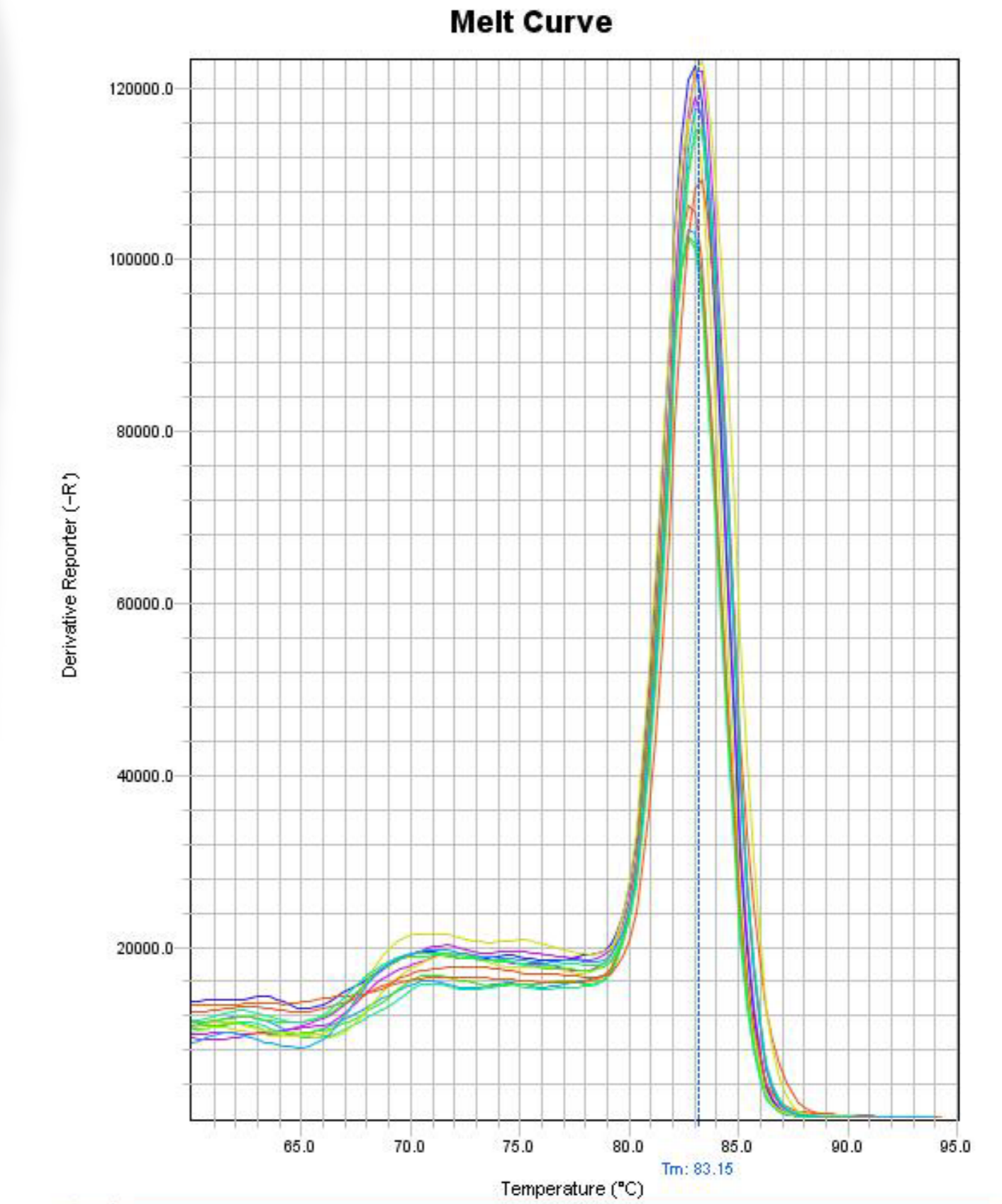
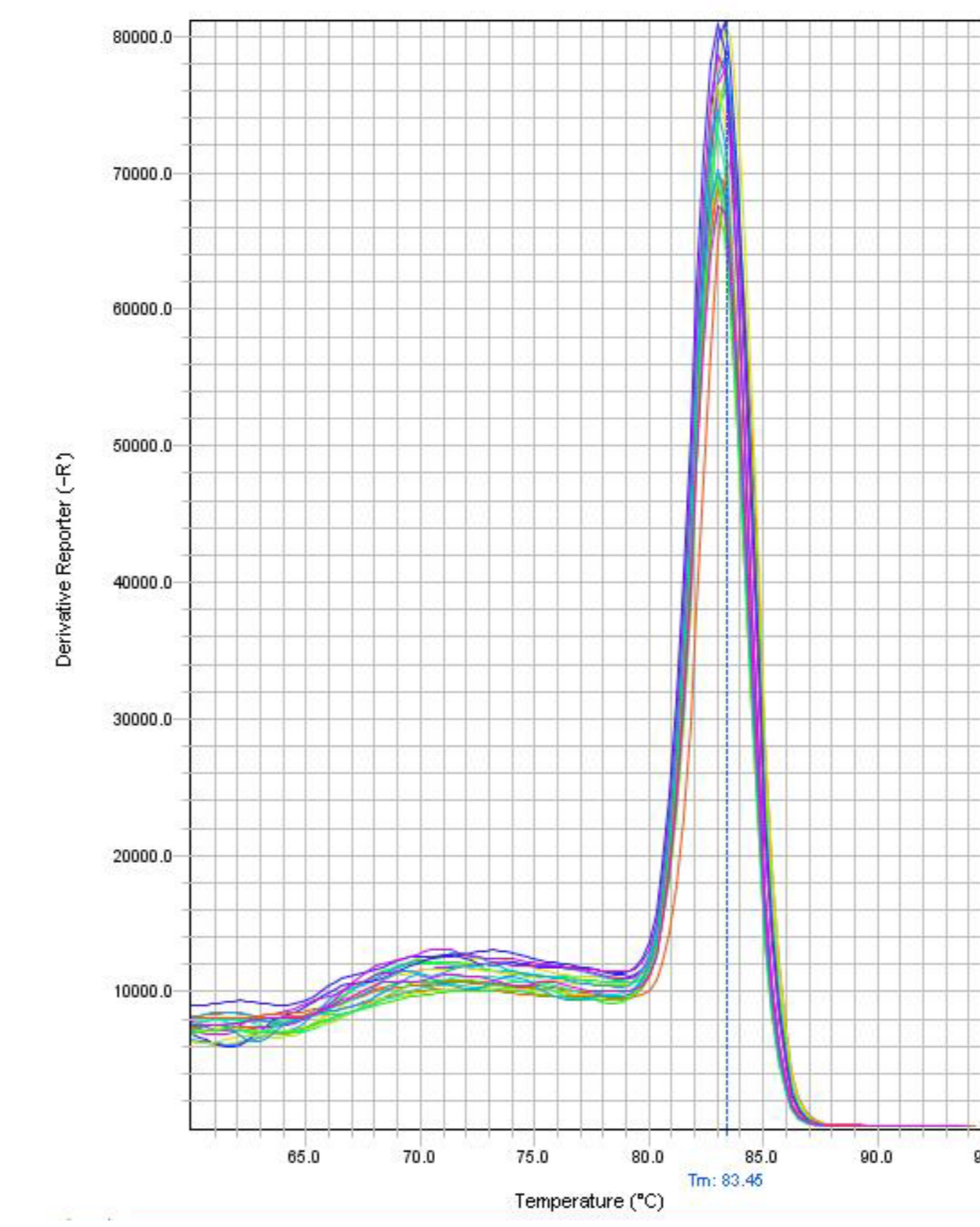
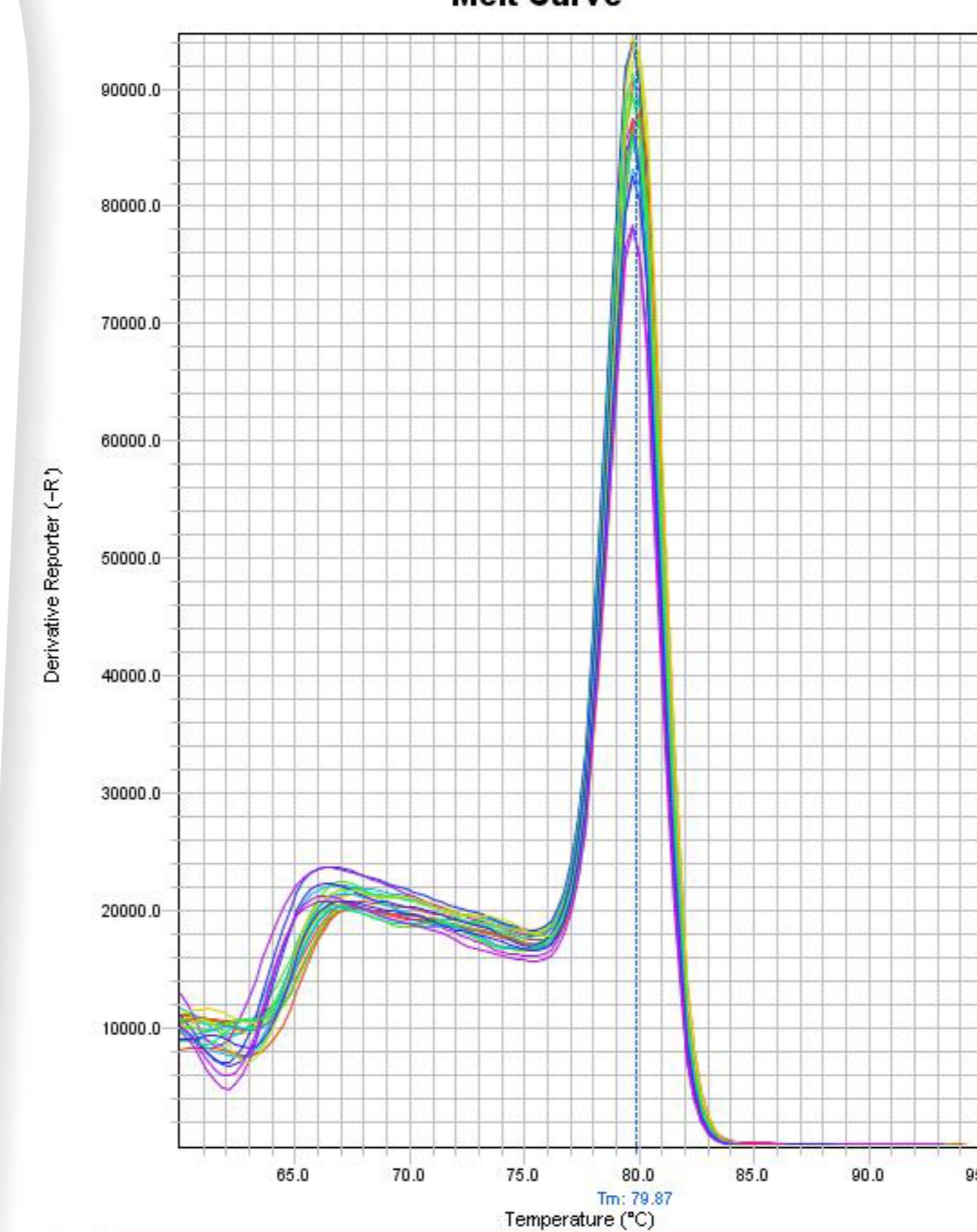
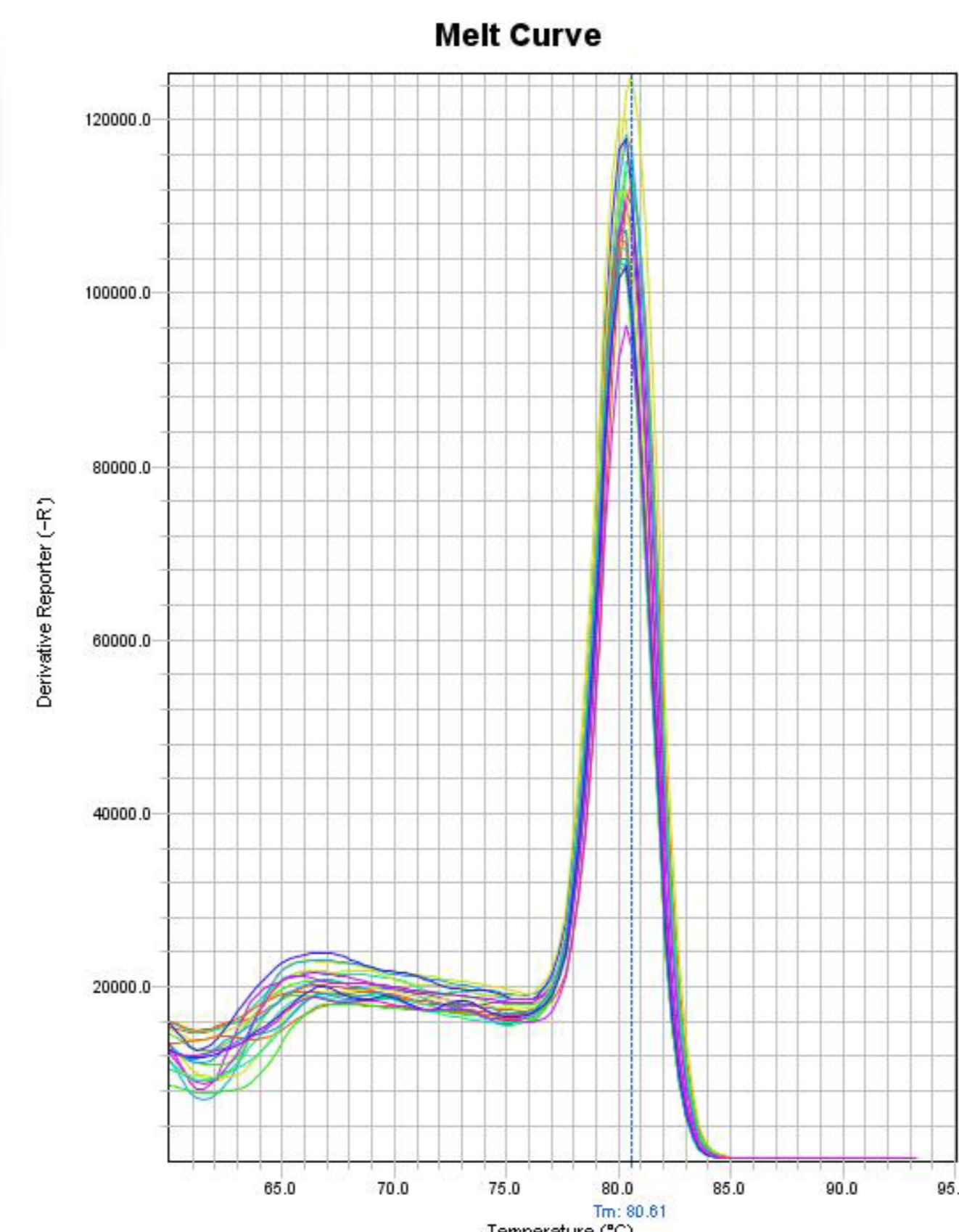
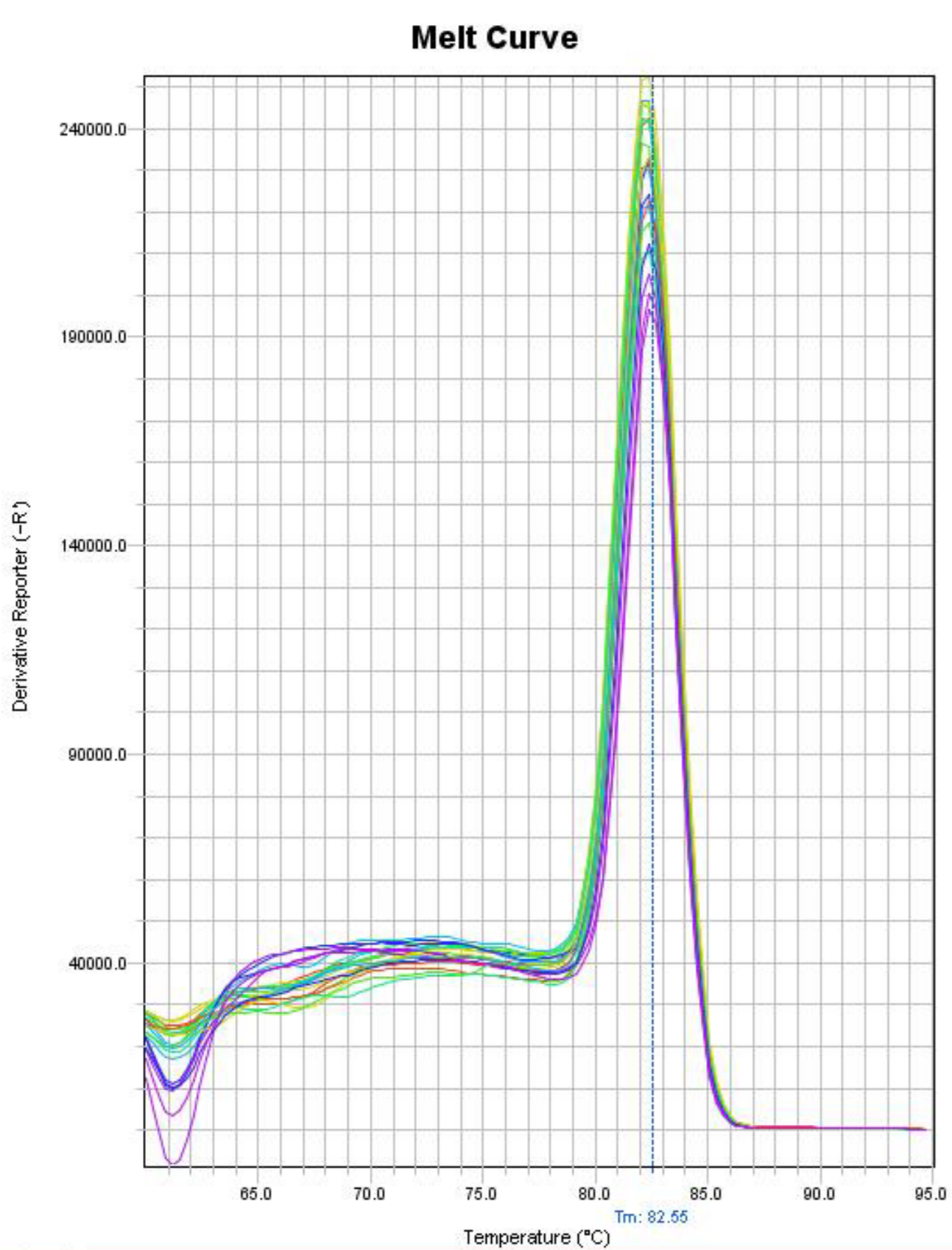
Competitor P

Competitor Q

Competitor QB

Competitor T

Competitor MB



# Detection of b2m from mouse cDNA - Melt Curve Analysis of NTCs

Clean melting curves plot for NTC's, including absence of primer-dimer formation (low Tm), reinforce specificity of MB419, a reliable hot-start master mix.

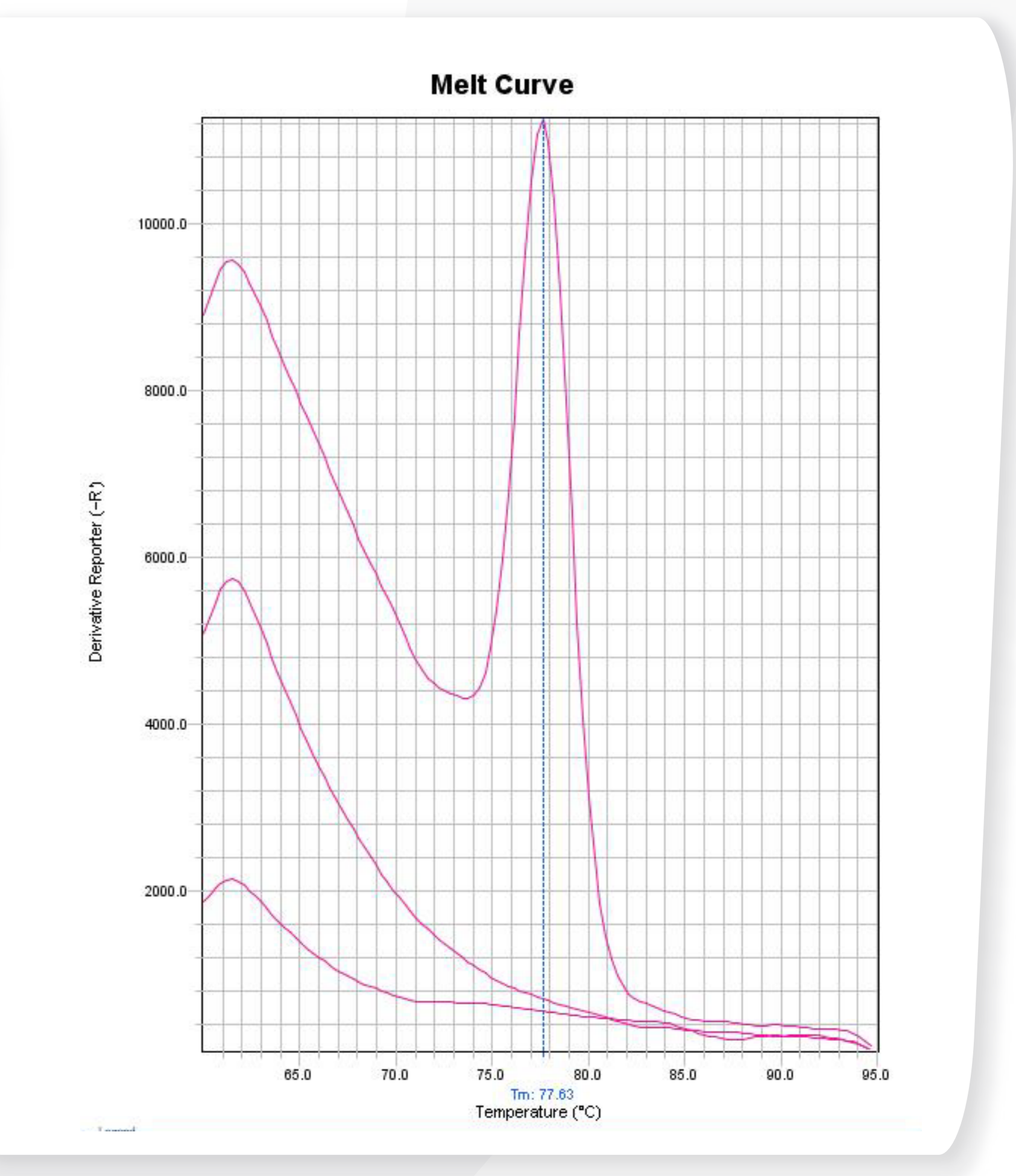
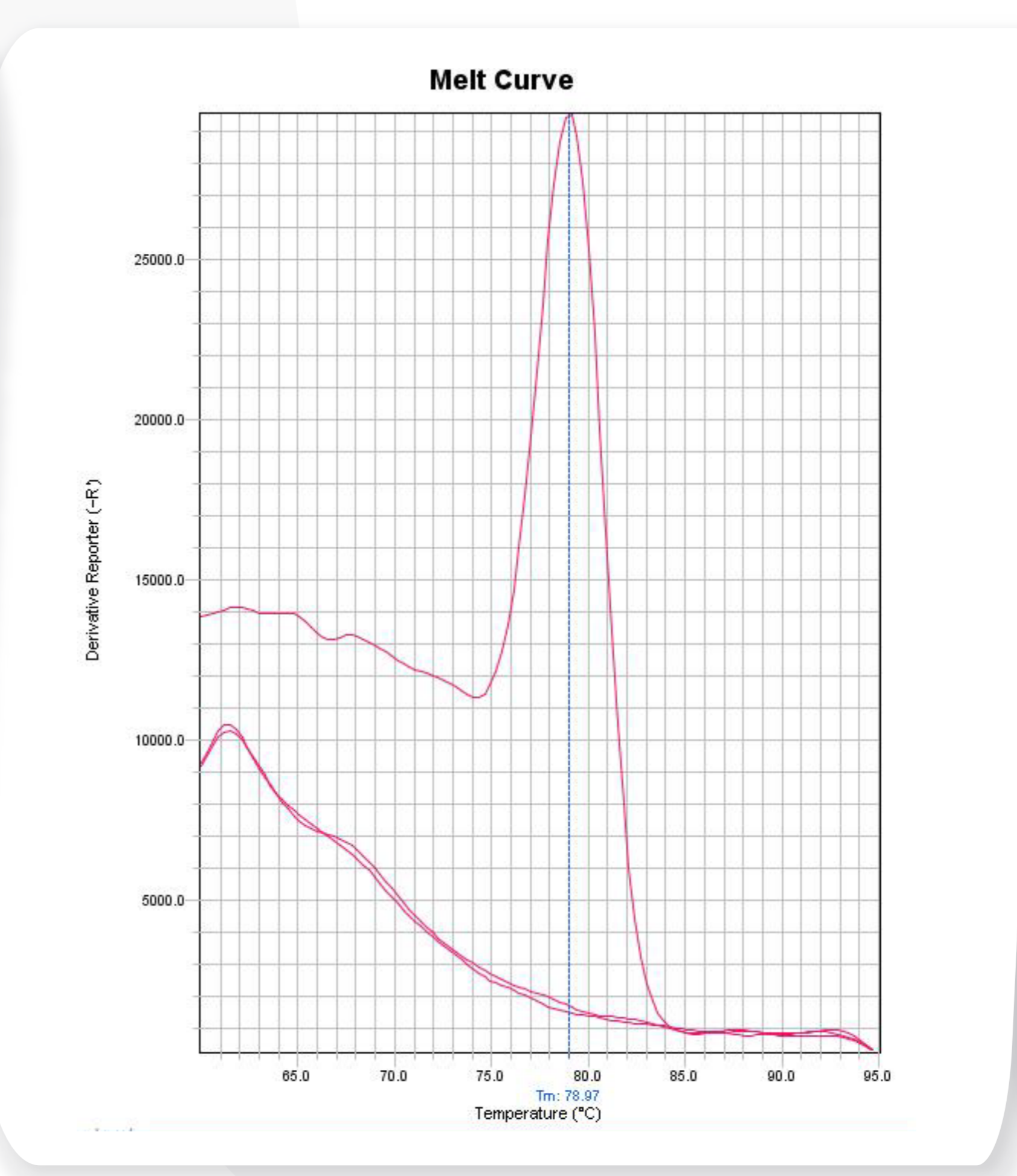
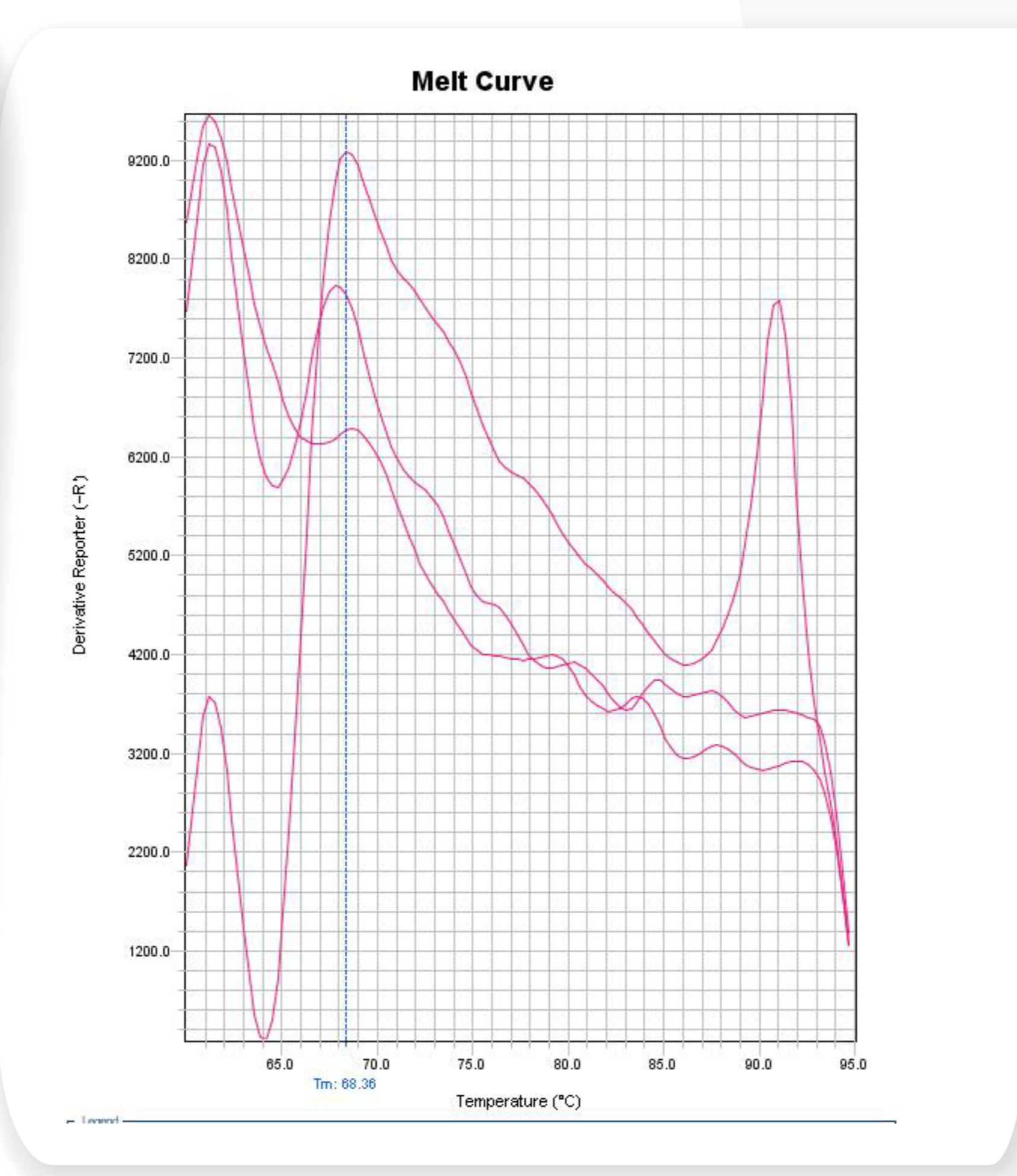
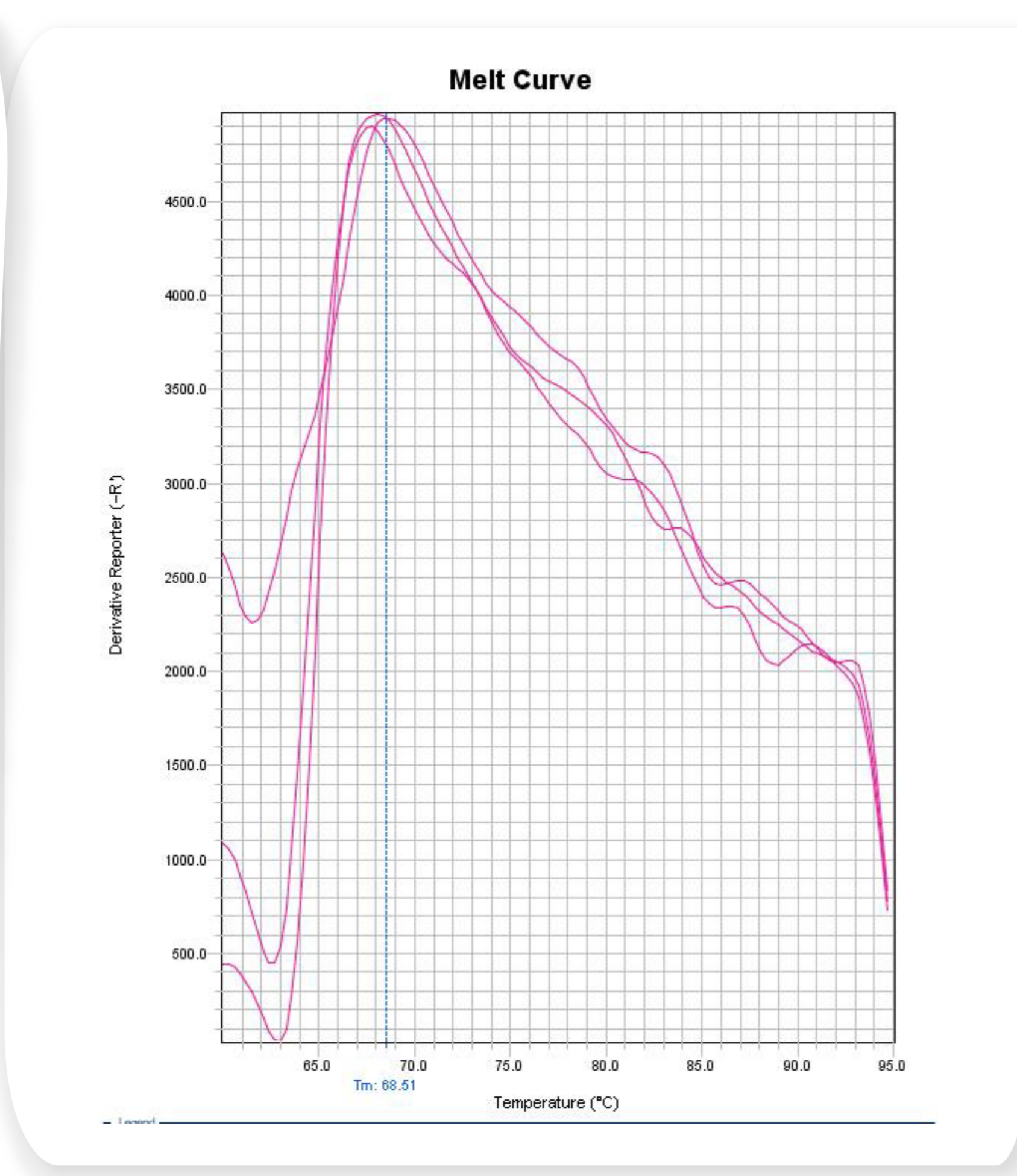
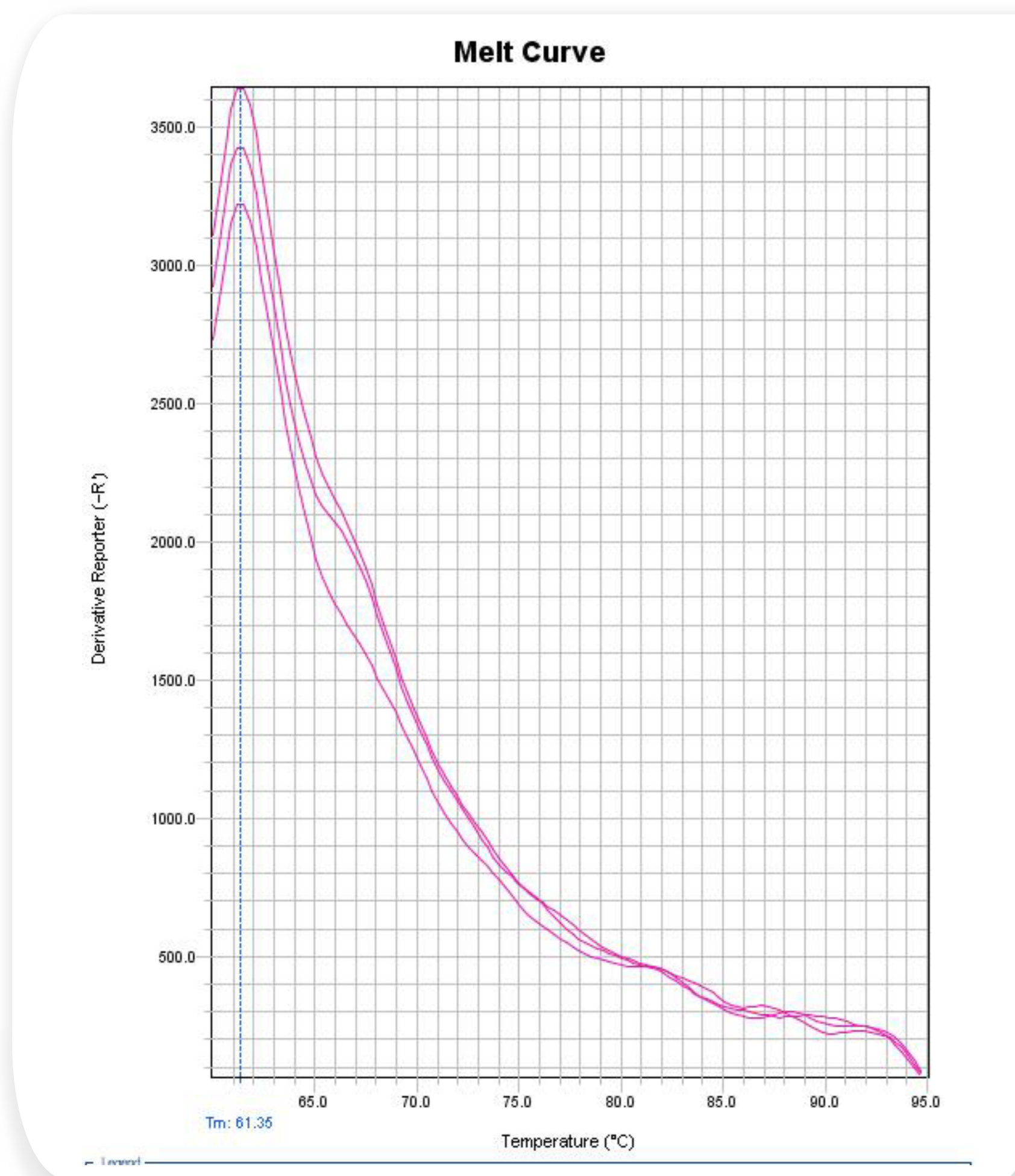
NZyTech | #MB419

Competitor AB

Competitor B

Competitor N

Competitor PB



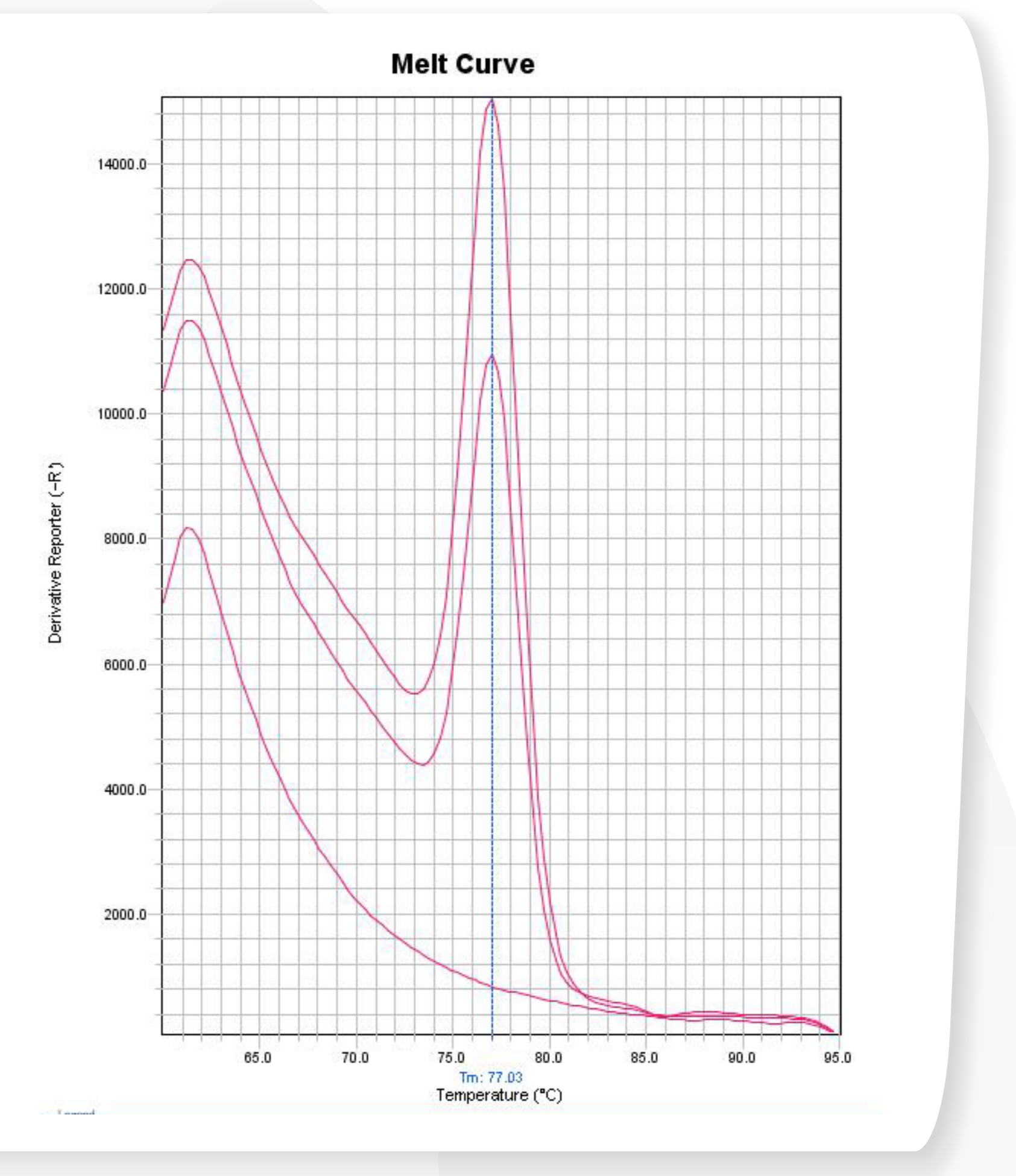
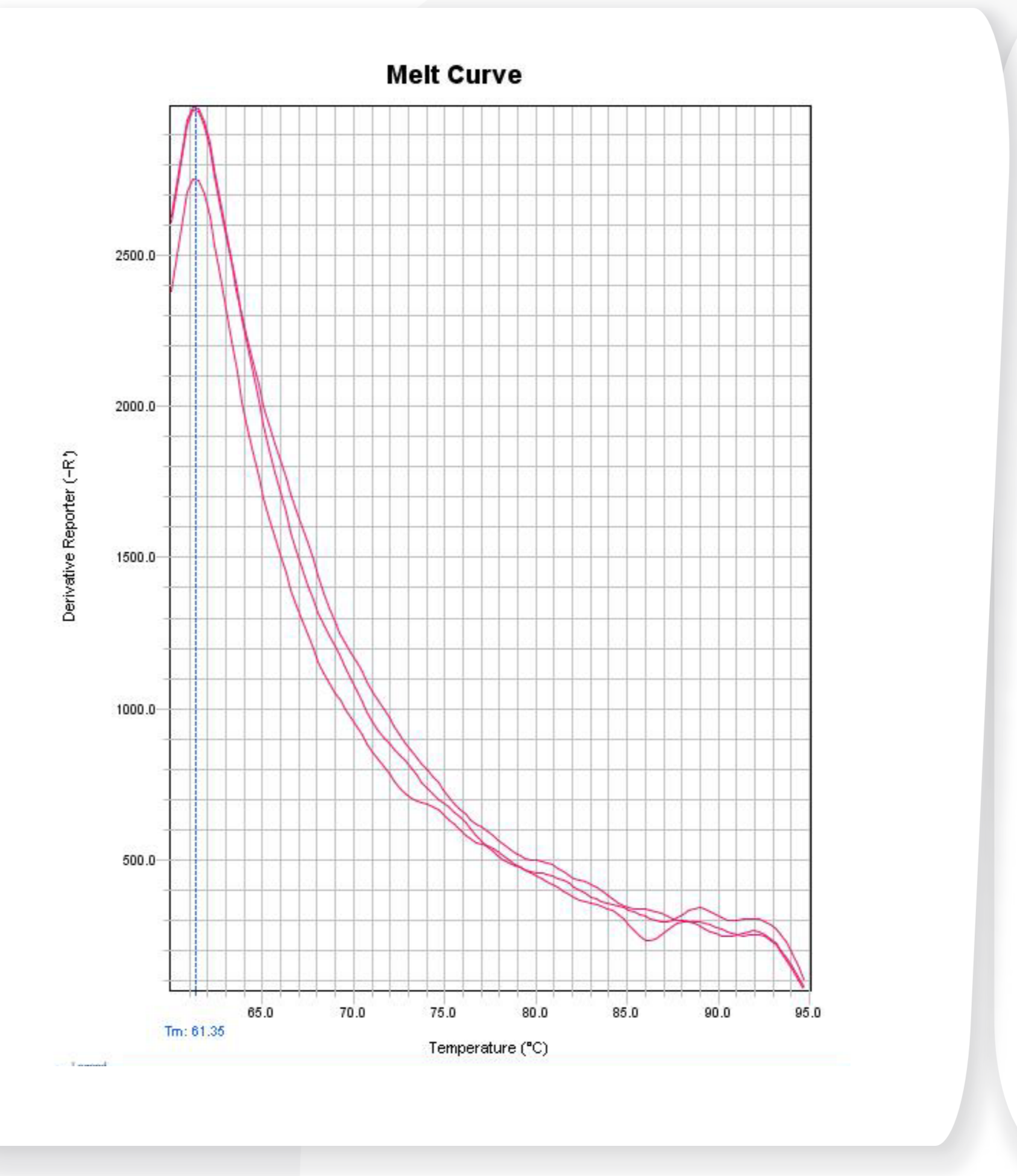
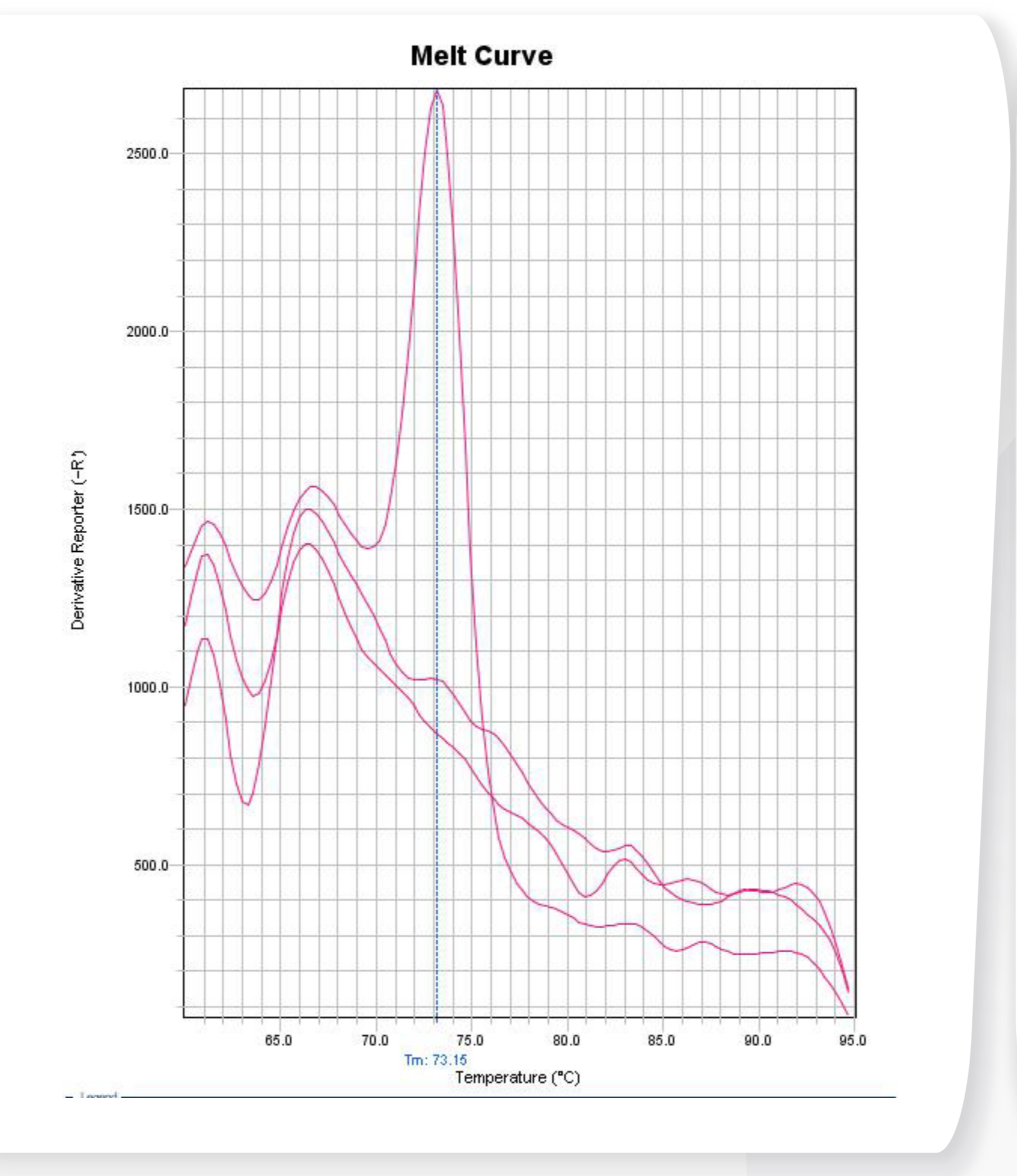
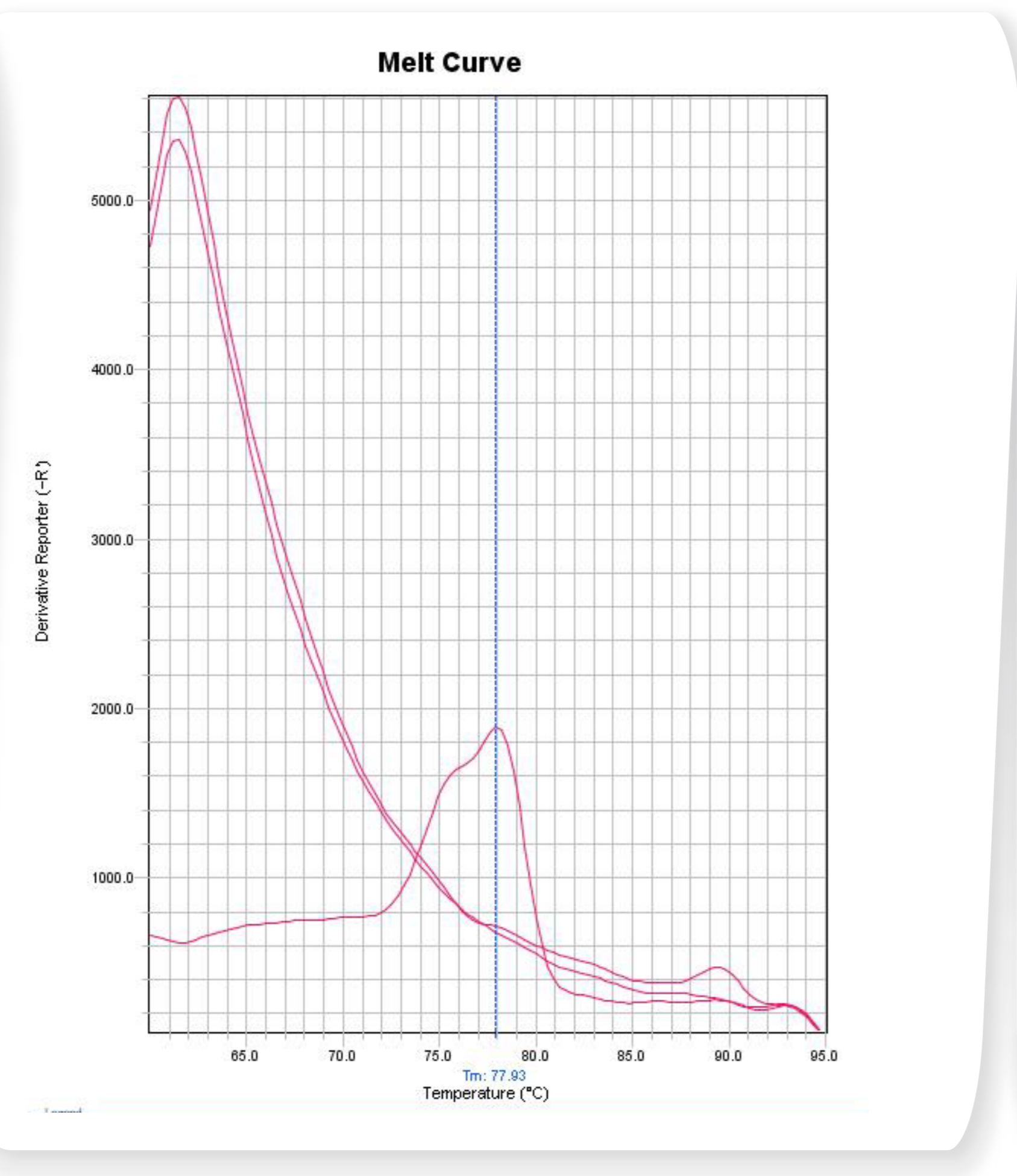
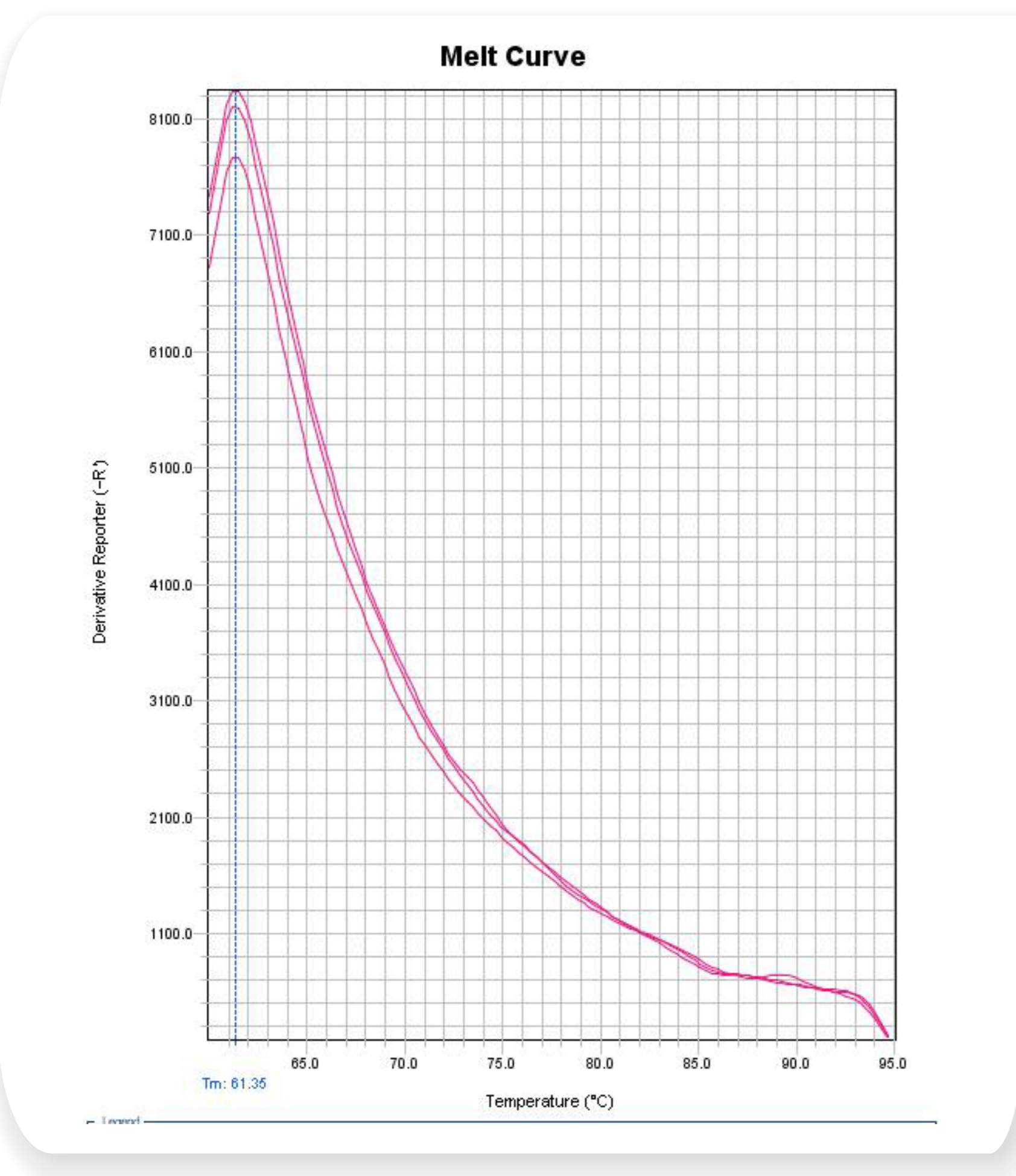
Competitor P

Competitor Q

Competitor QB

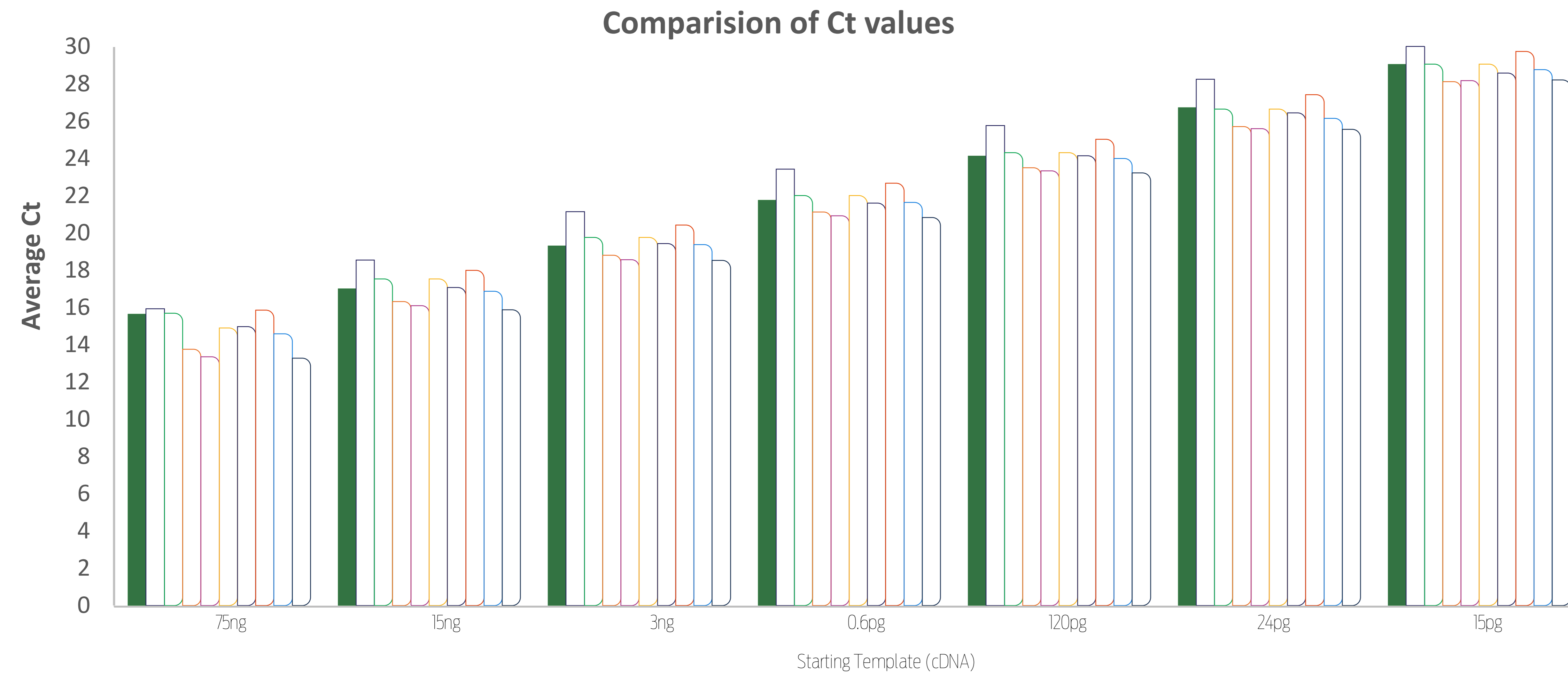
Competitor T

Competitor MB

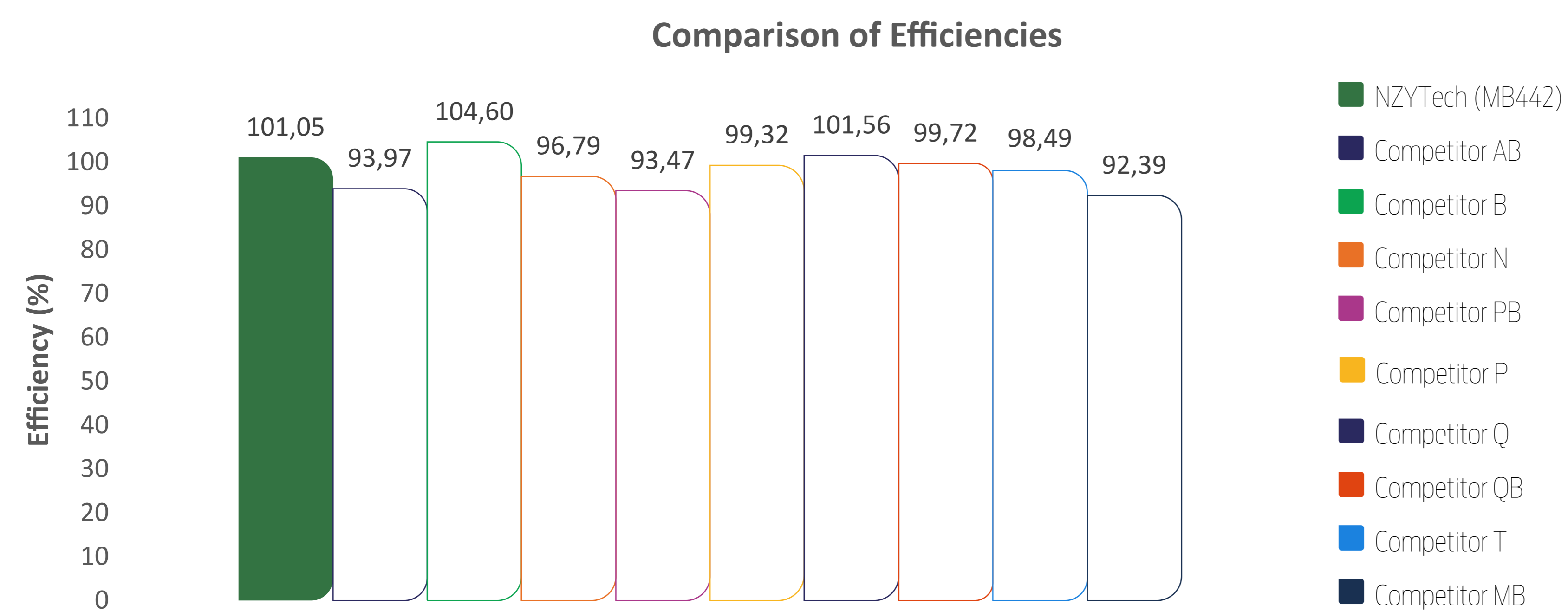


# Global Analysis

## Comparison of Ct Values - Detection of b2m from mouse cDNA



Competitor	Starting Template (cDNA)						
	75 ng	15 ng	3 ng	0.6 pg	120 pg	24 pg	15 pg
NZYTech (MB442)	15.7	17.0	19.3	21.8	24.1	26.8	29.1
Competitor AB	15.9	18.6	21.1	23.4	25.8	28.3	30.6
Competitor B	15.7	17.5	19.8	22.0	24.3	26.7	29.1
Competitor N	13.8	16.3	18.8	21.1	23.5	25.7	28.1
Competitor PB	13.4	16.1	18.6	20.9	23.3	25.6	28.2
Competitor P	14.9	17.5	19.8	22.0	24.3	26.7	29.1
Competitor Q	15.0	17.1	19.4	21.6	24.2	26.5	28.6
Competitor QB	15.9	18.0	20.4	22.7	25.0	27.4	29.8
Competitor T	14.6	16.9	19.4	21.6	24.0	26.2	28.8
Competitor MB	13.3	15.9	18.5	20.8	23.2	25.6	28.2



Ct values for NTC\*

Competitor	Replicates		
	1	2	3
NZYTech (MB442)	Undetermined	Undetermined	Undetermined
Competitor AB	Undetermined	Undetermined	Undetermined
Competitor B	Undetermined	Undetermined	Undetermined
Competitor N	Undetermined	Undetermined	38,5
Competitor PB	Undetermined	Undetermined	Undetermined
Competitor P	Undetermined	Undetermined	Undetermined
Competitor Q	Undetermined	Undetermined	Undetermined
Competitor QB	Undetermined	Undetermined	Undetermined
Competitor T	Undetermined	Undetermined	Undetermined
Competitor MB	Undetermined	Undetermined	40,0

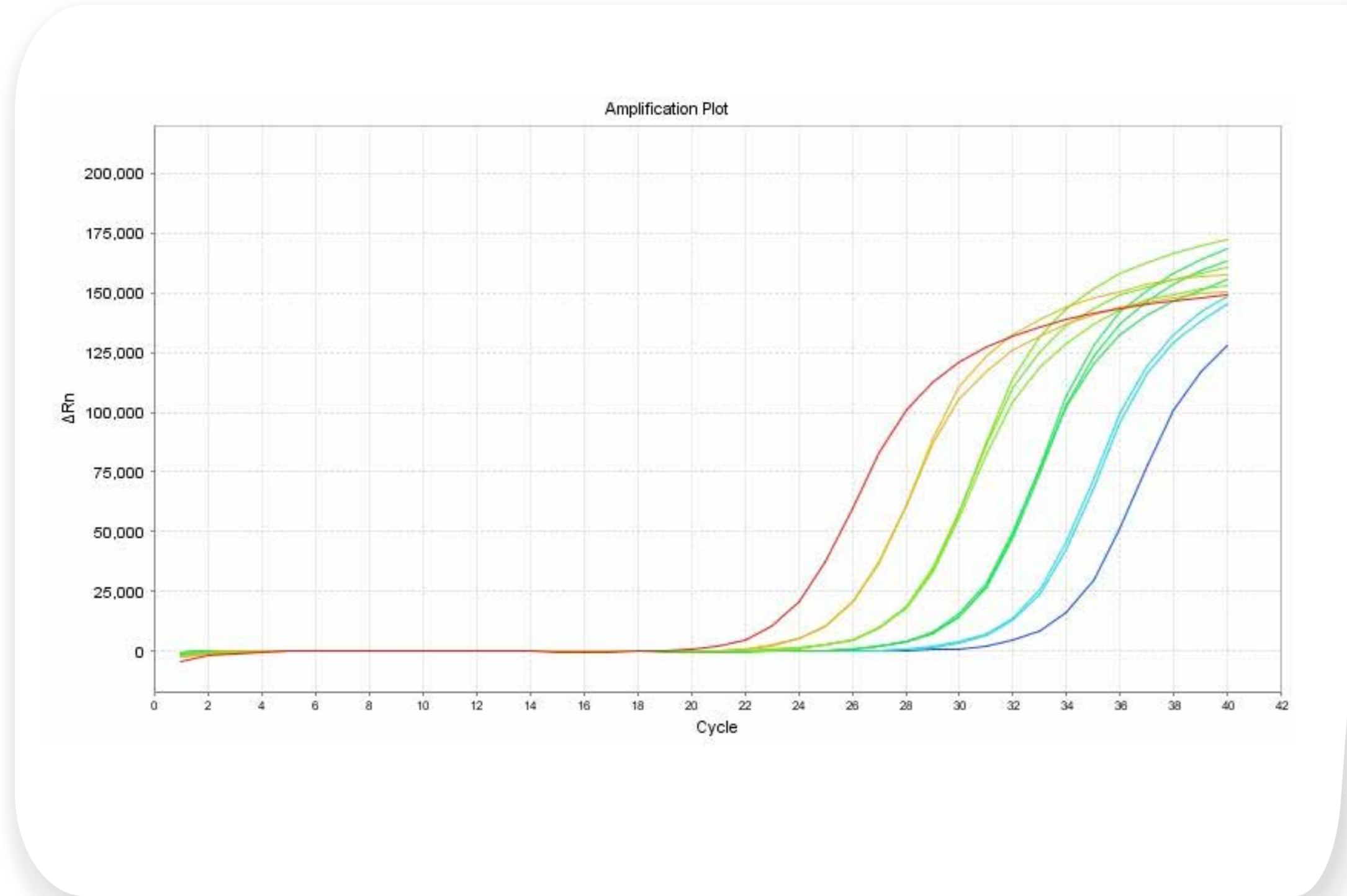
(\*) NTC = No template control

# Detection of Large1 from human gDNA - Amplification

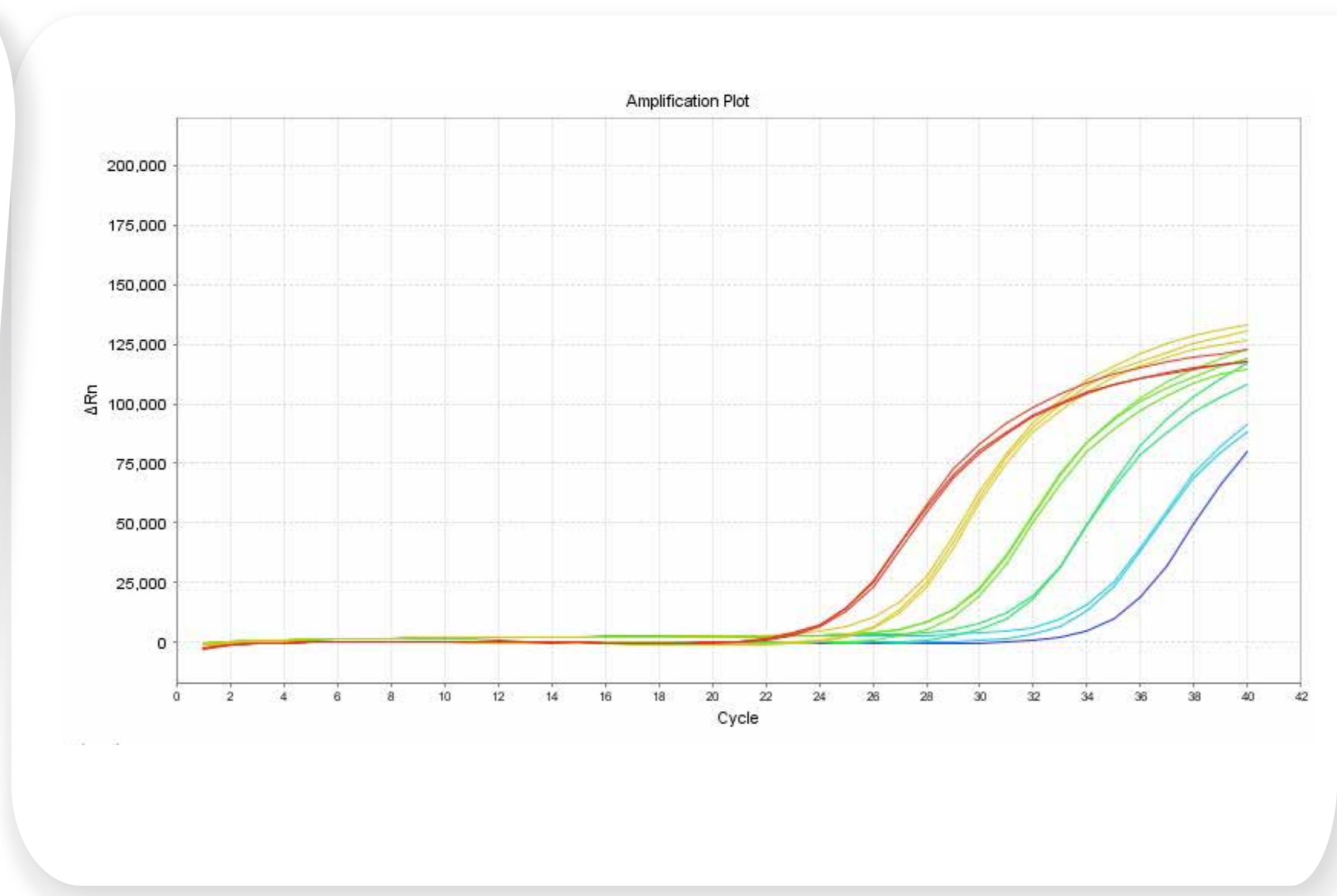
Excellent sensitivity and linearity in the amplification using a 5-fold serial dilution of human genomic DNA.

NZYTech | #MB419

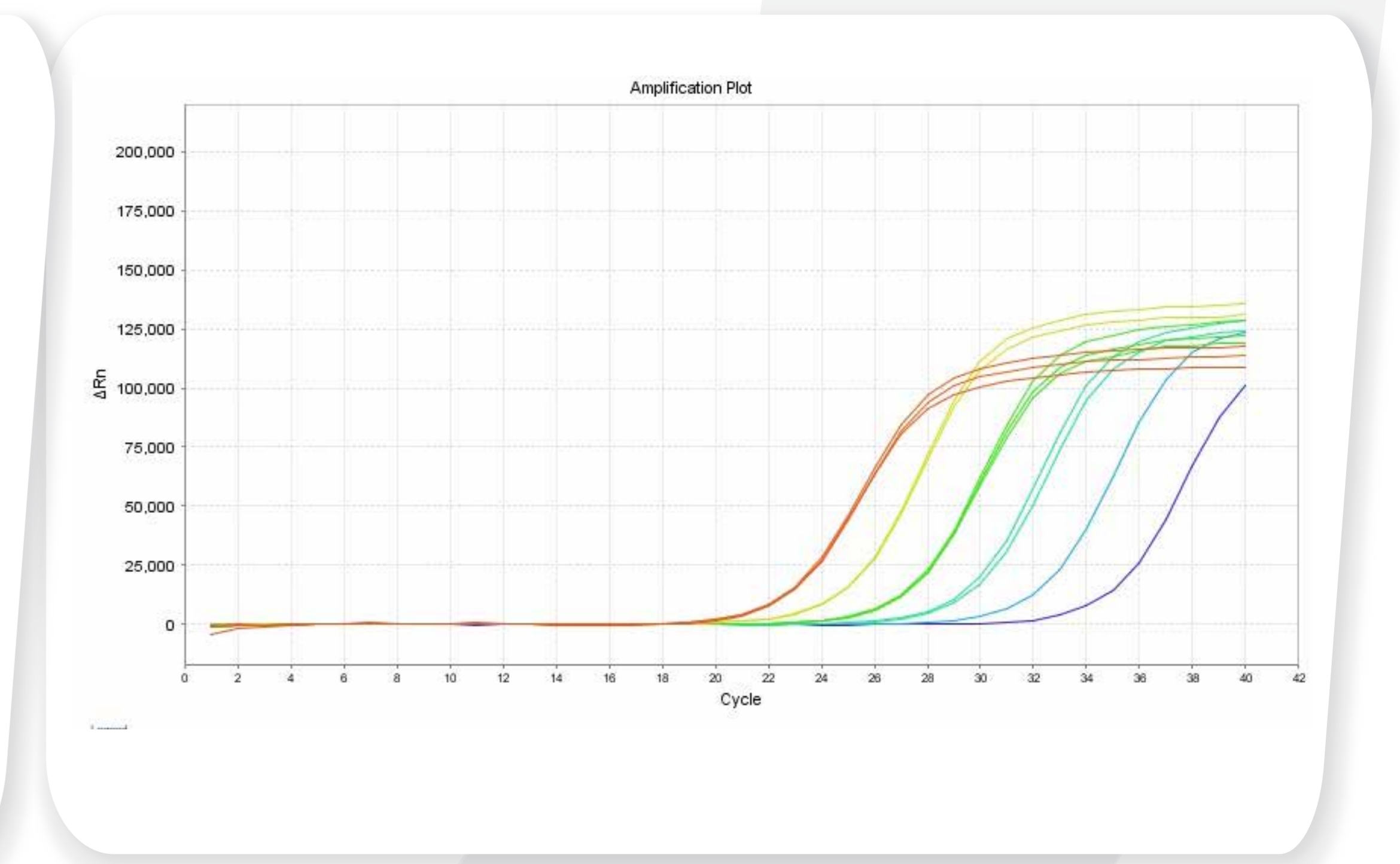
Competitor AB



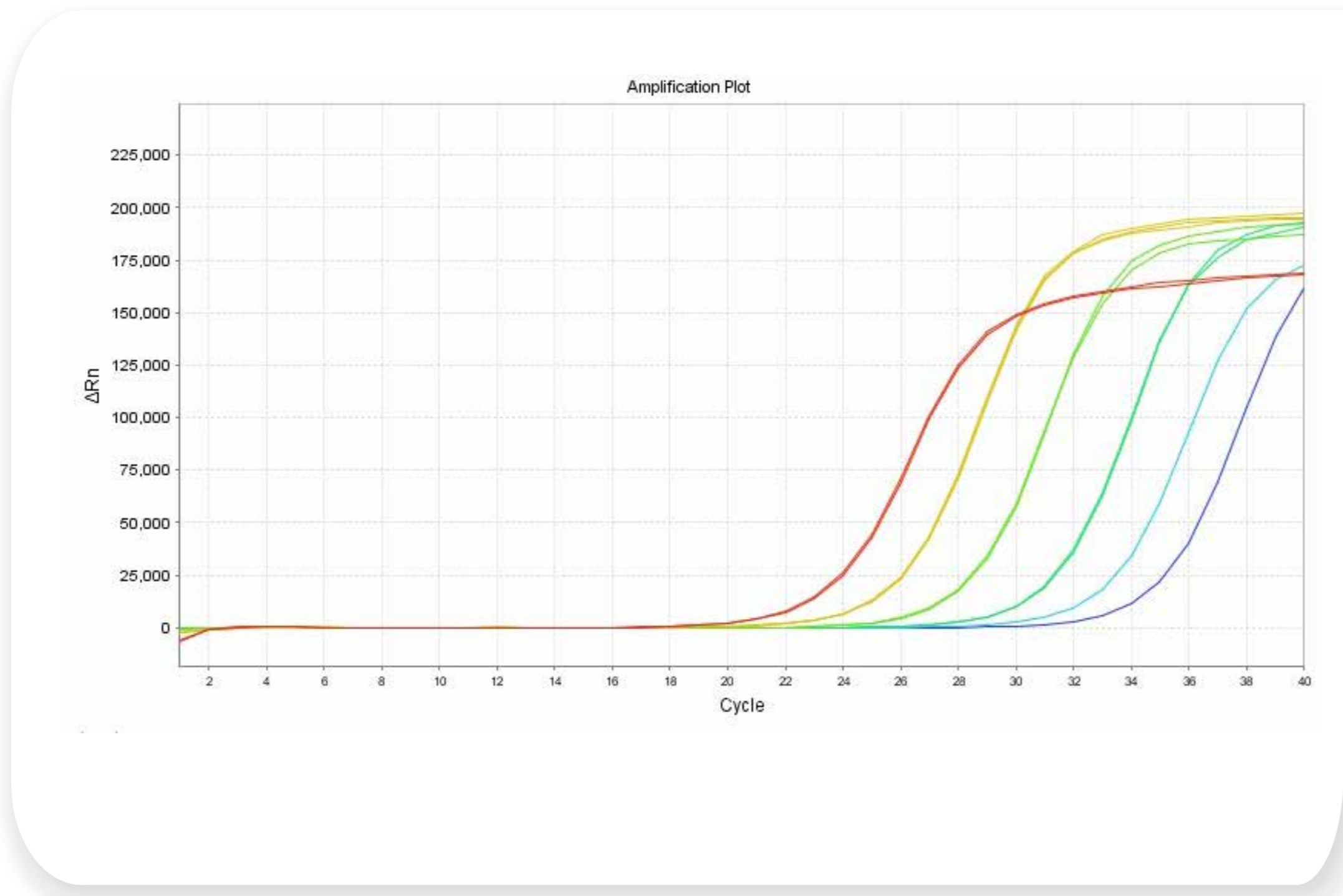
Competitor B



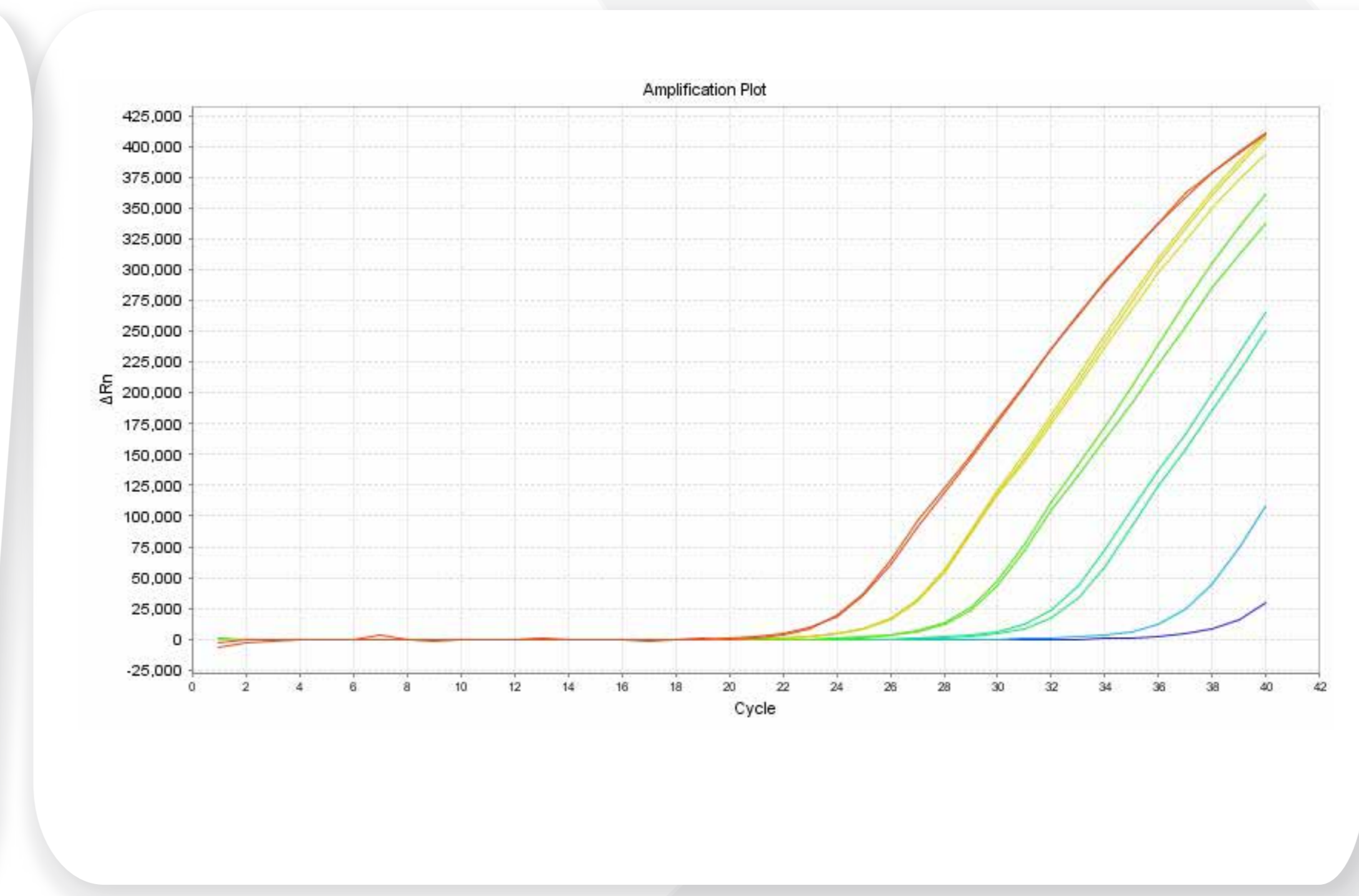
Competitor N



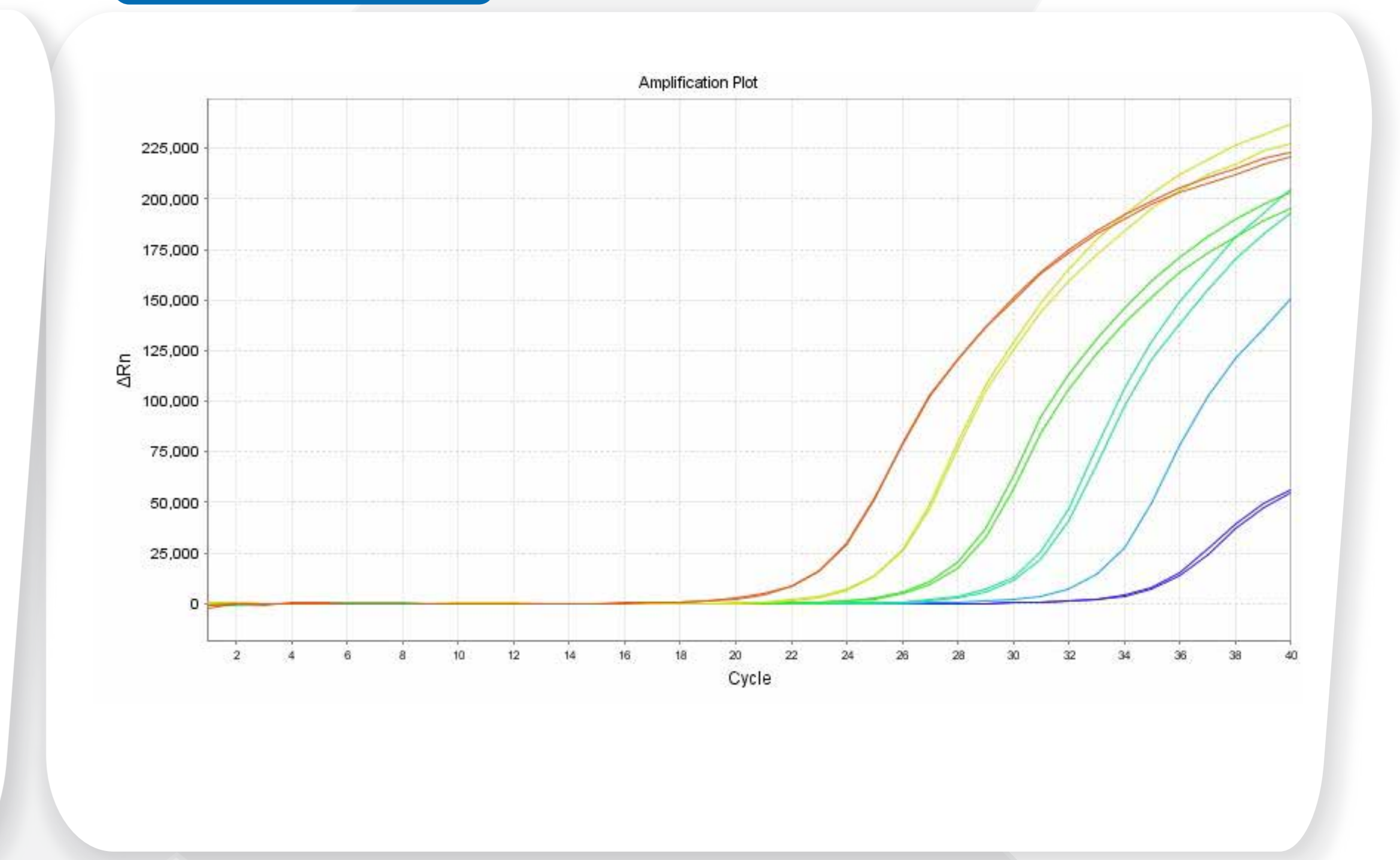
Competitor PB



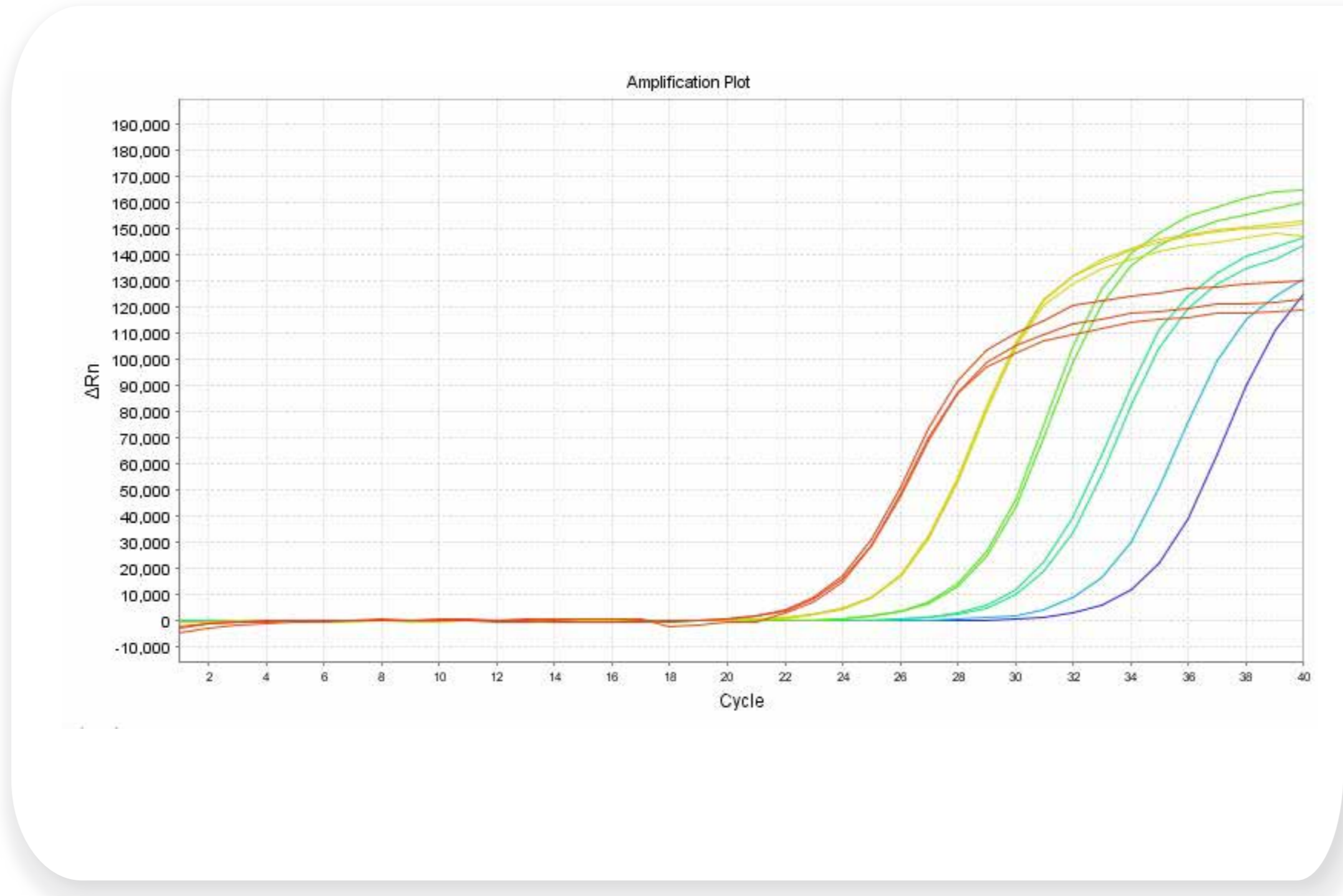
Competitor P



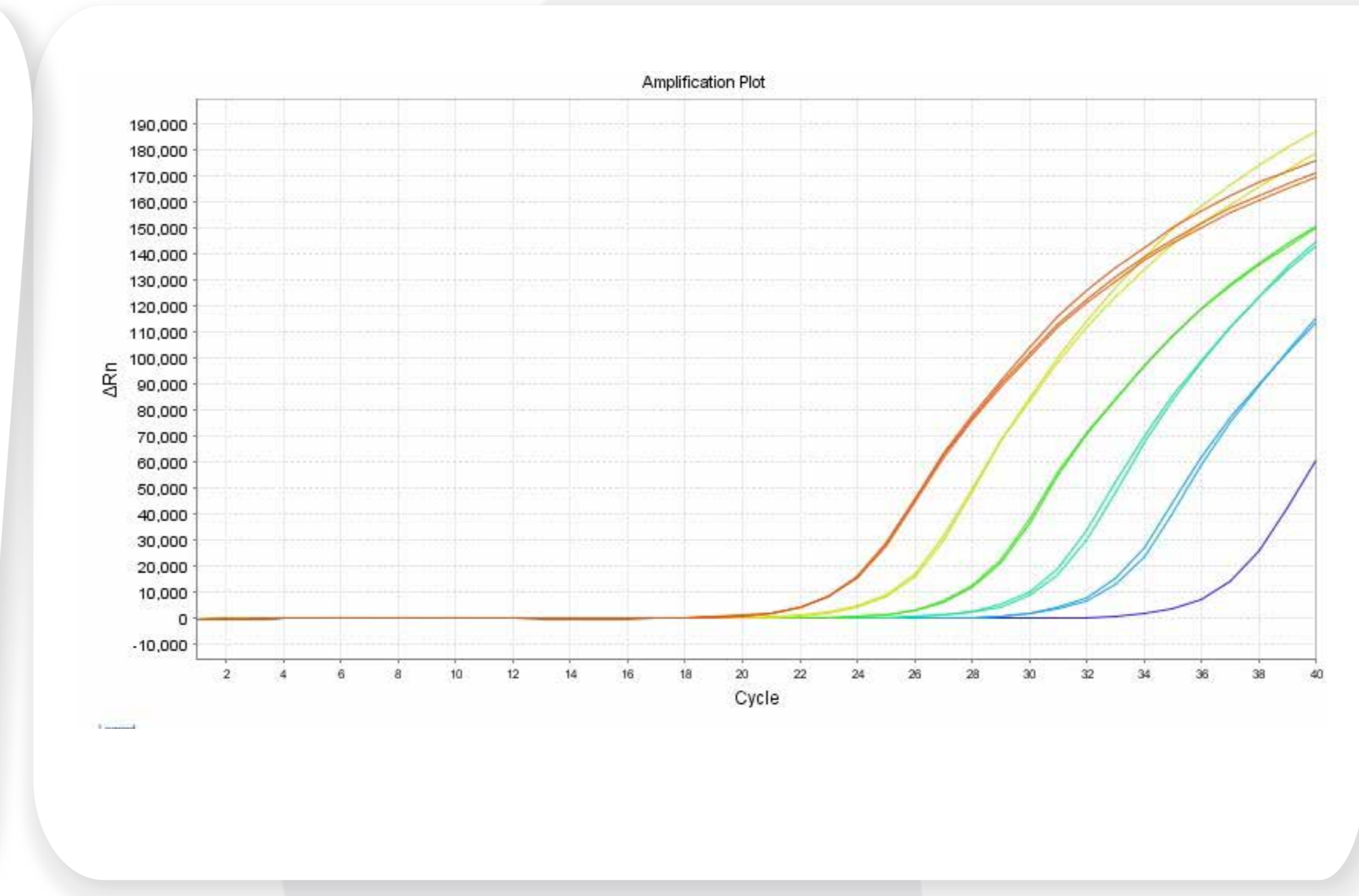
Competitor Q



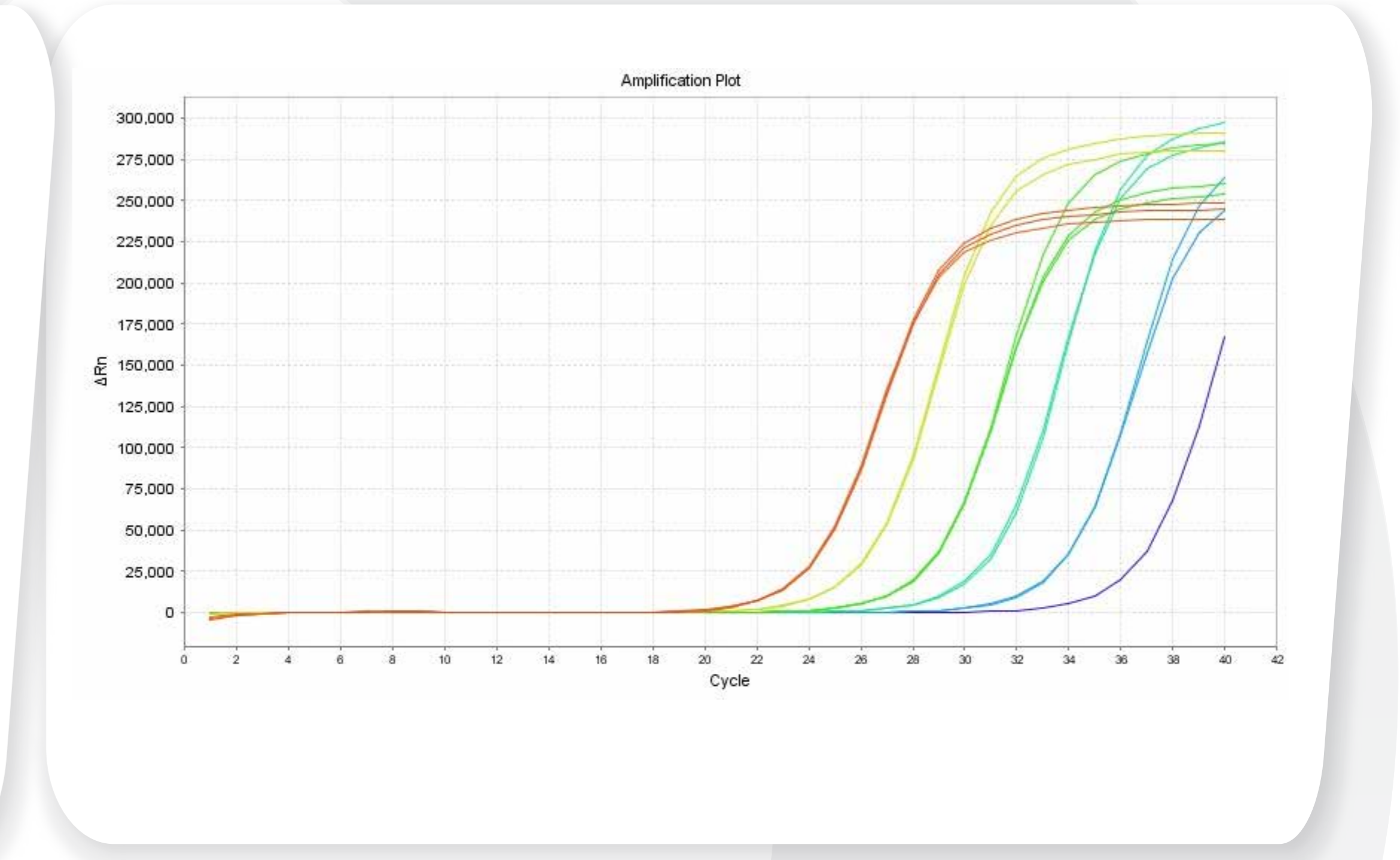
Competitor QB



Competitor T



Competitor MB



# Detection of Large1 from human gDNA - Melt Curve

Specific detection of human target is observed for all dilutions of template when using the NZYTech's master mix, as shown by the unique peak corresponding to the desired amplicon.

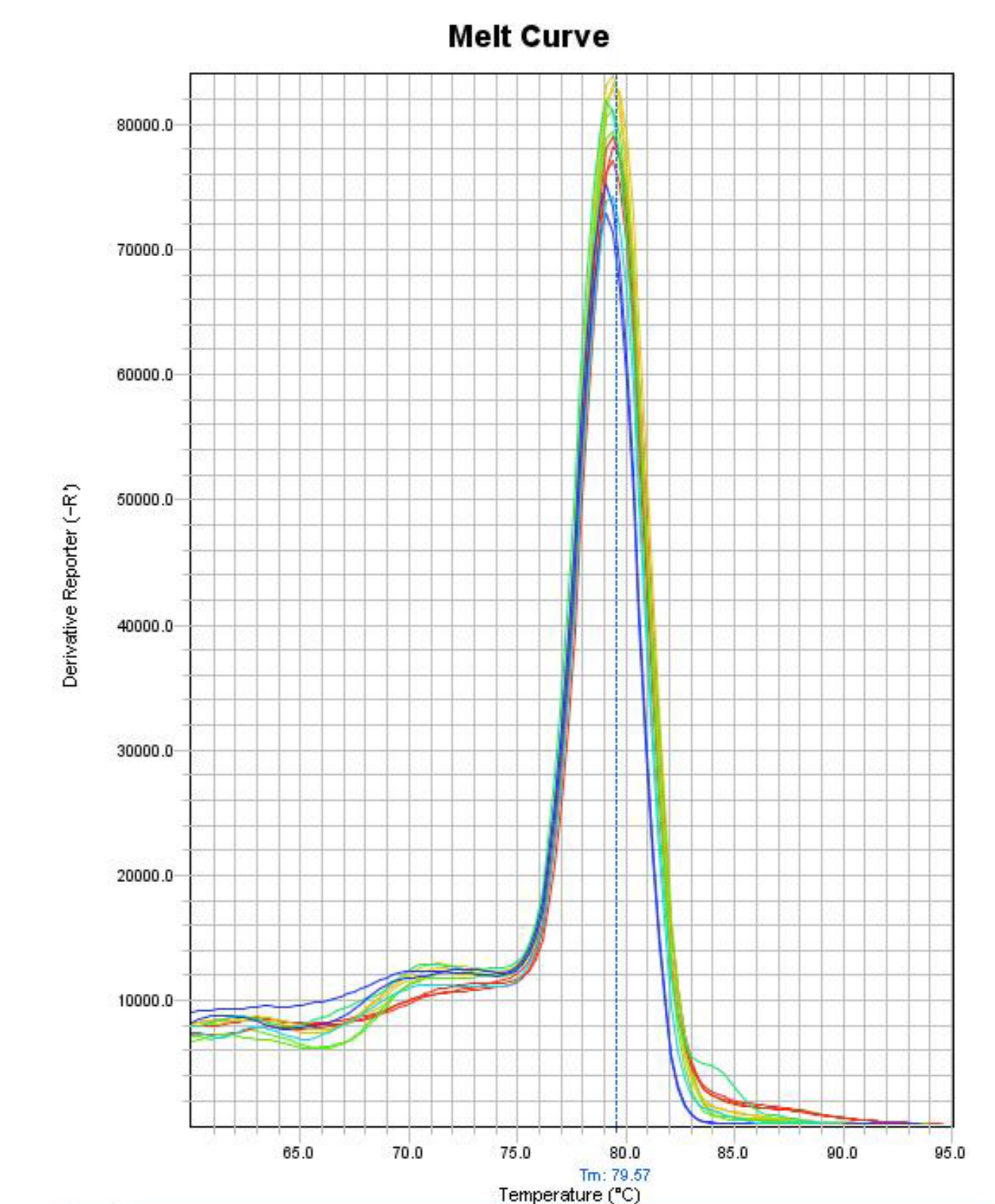
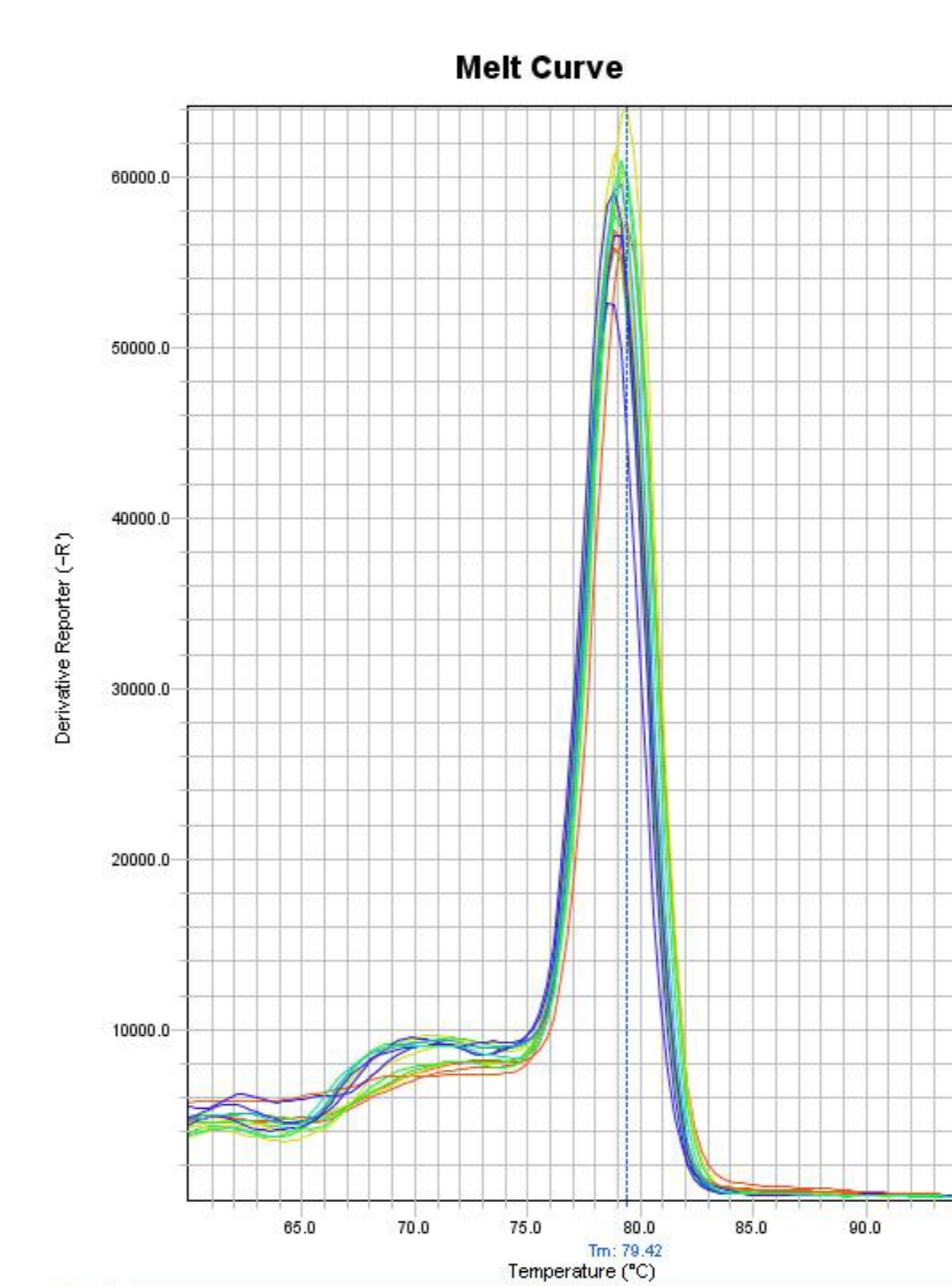
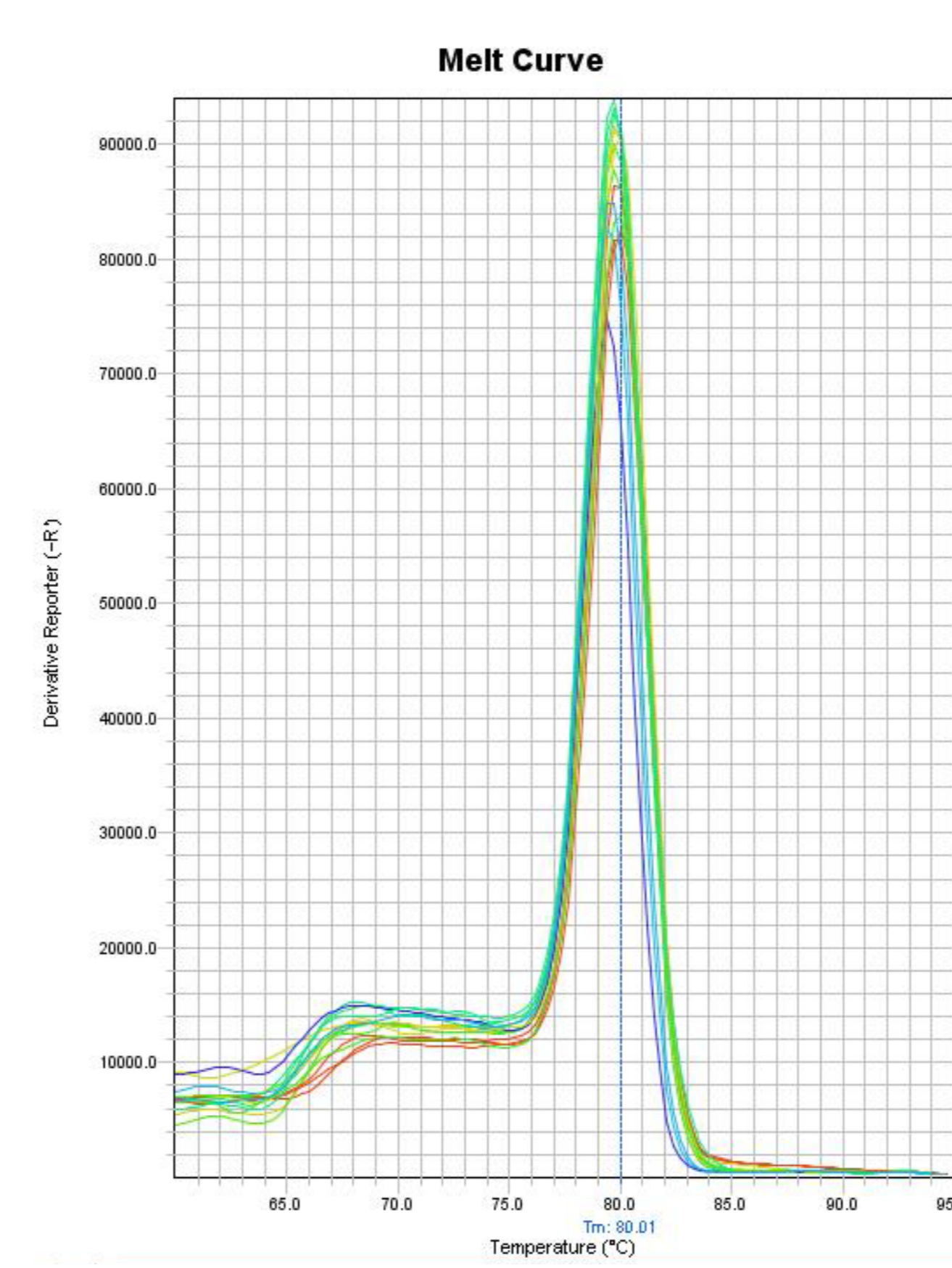
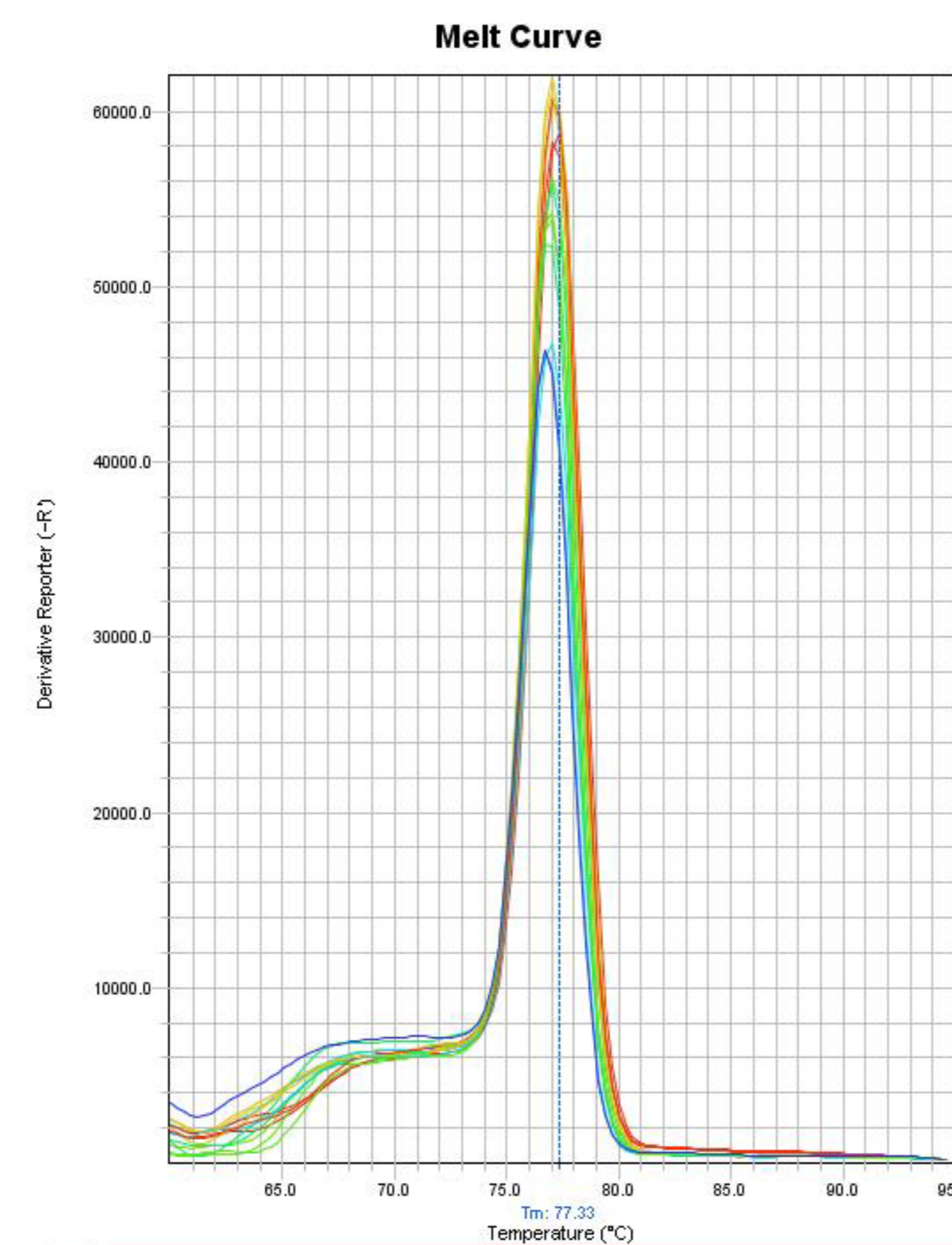
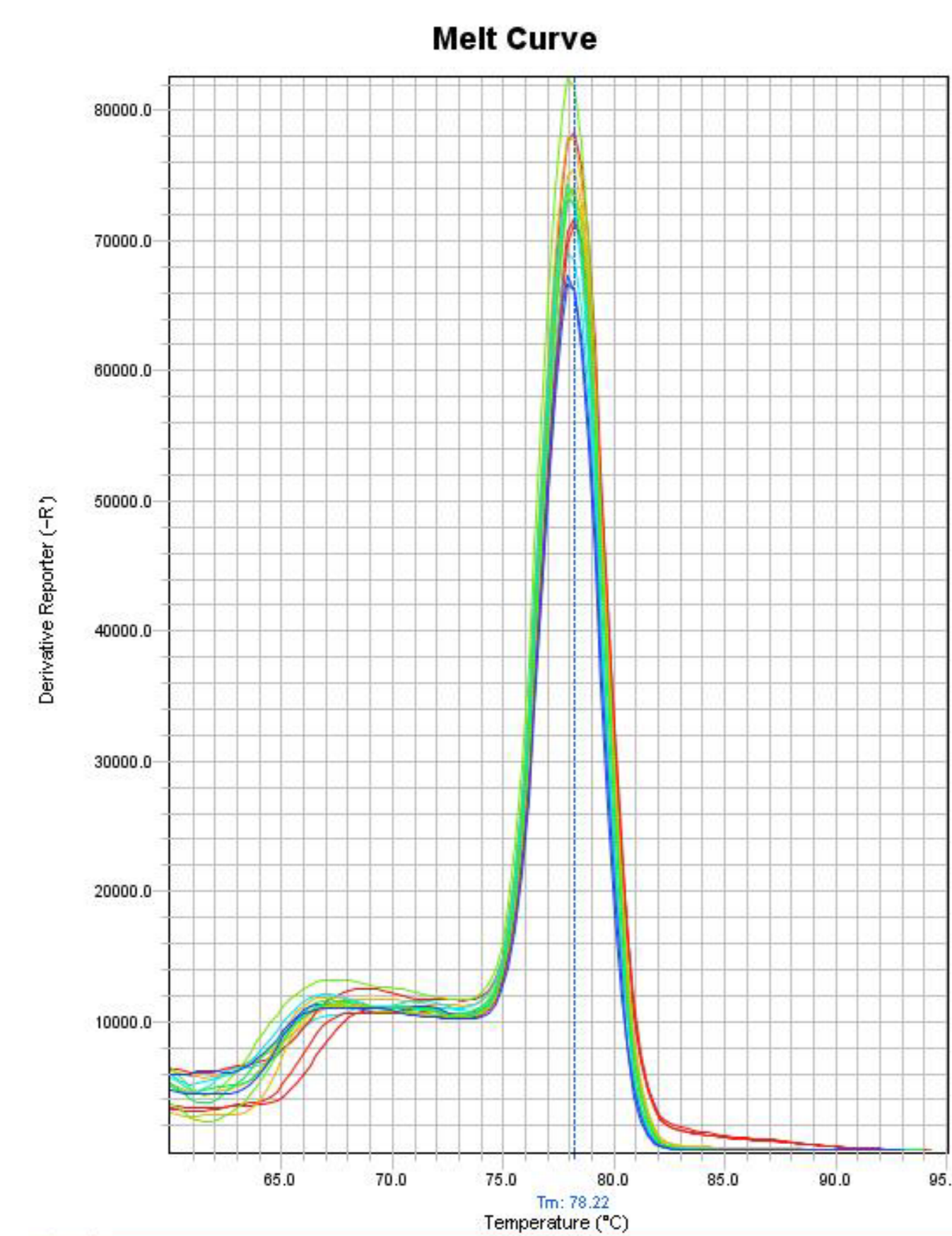
NZYTech | #MB419

Competitor AB

Competitor B

Competitor N

Competitor PB



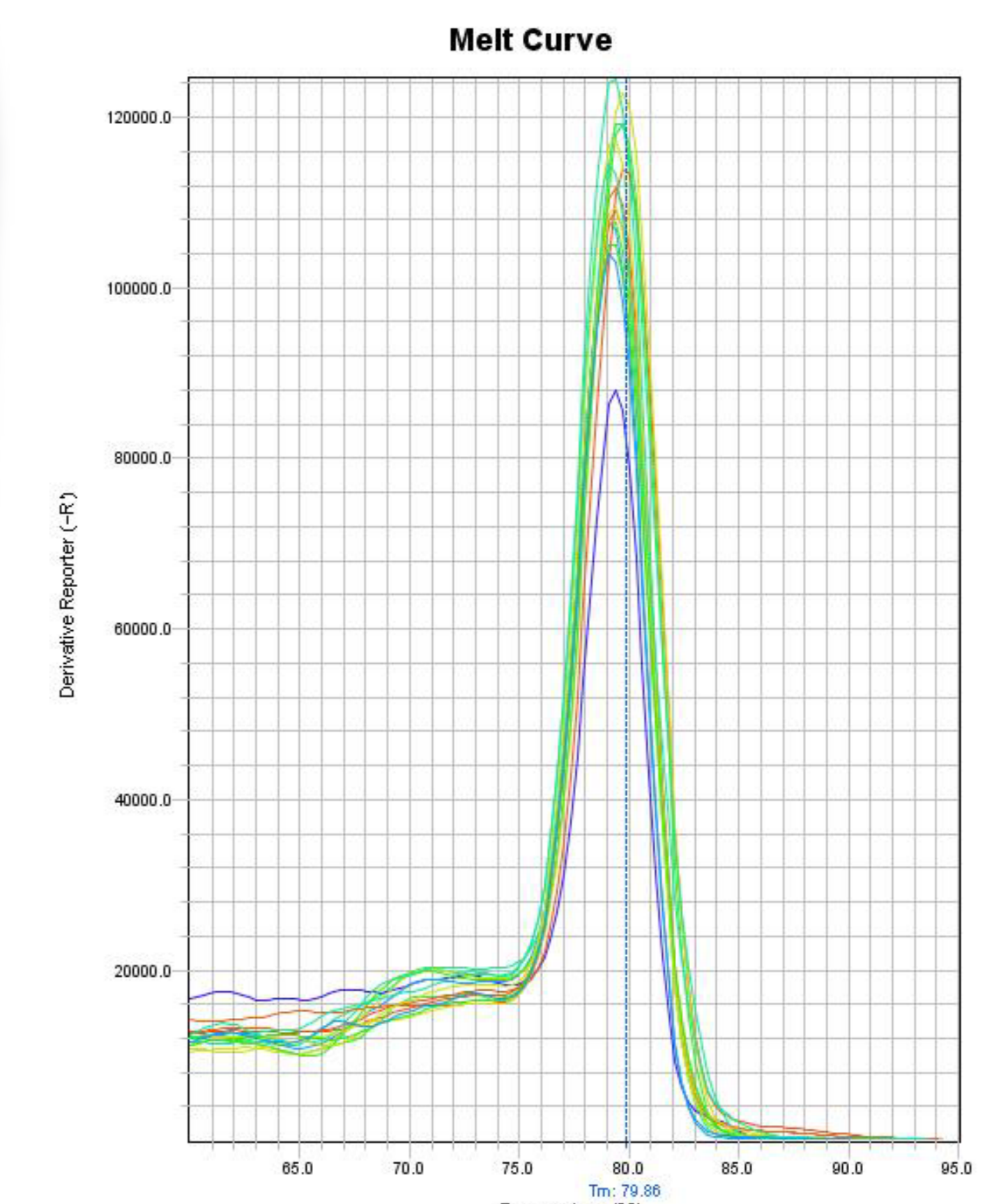
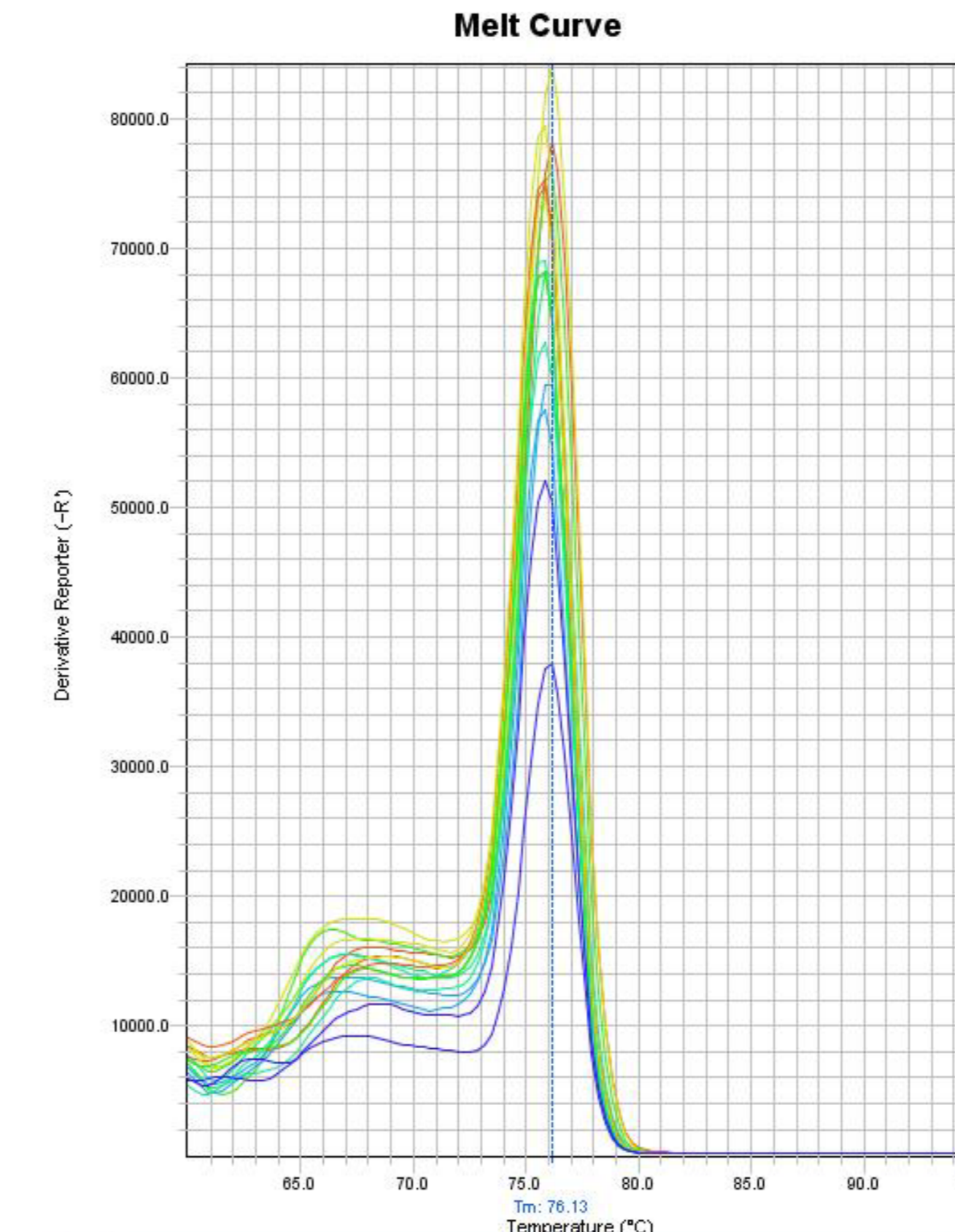
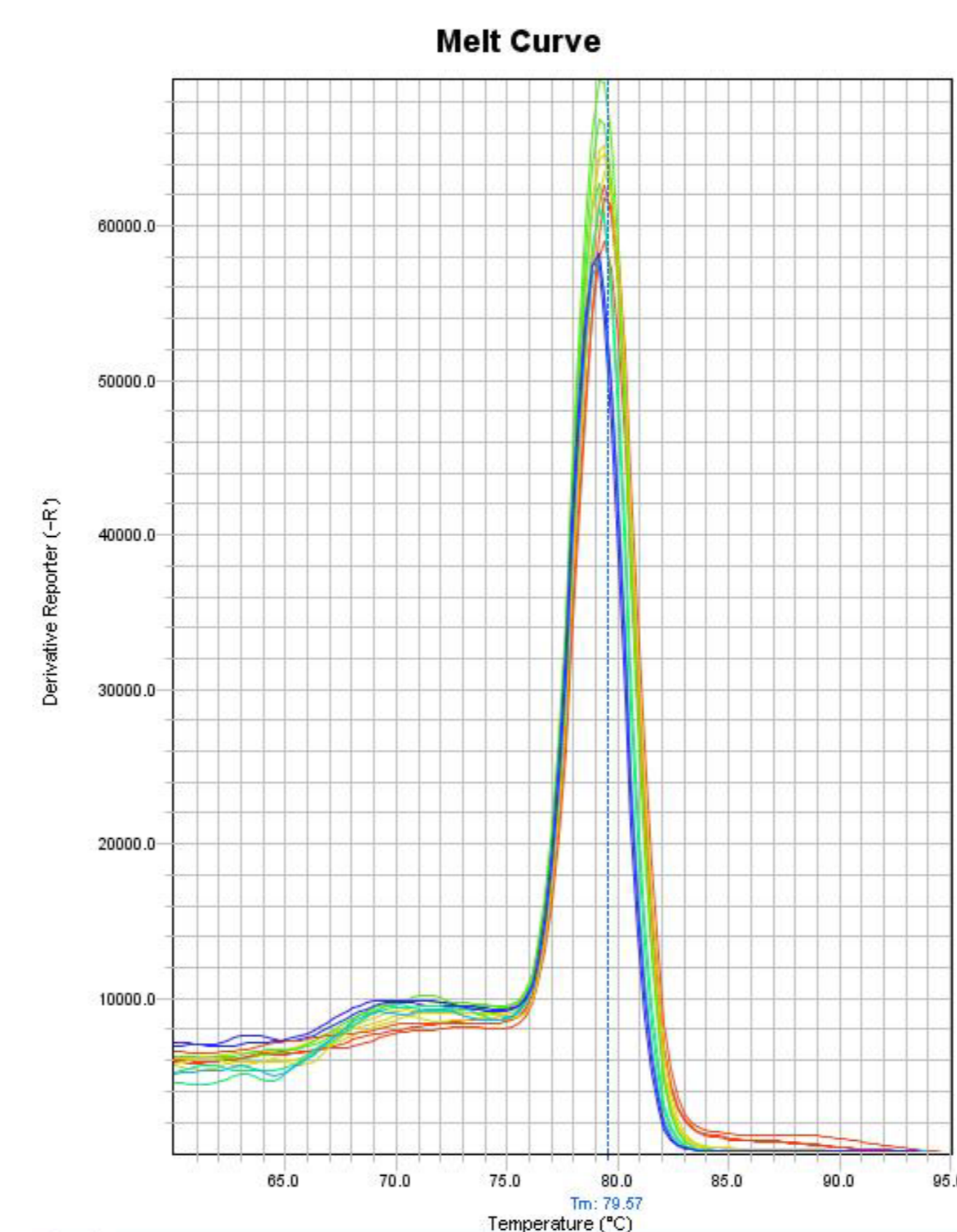
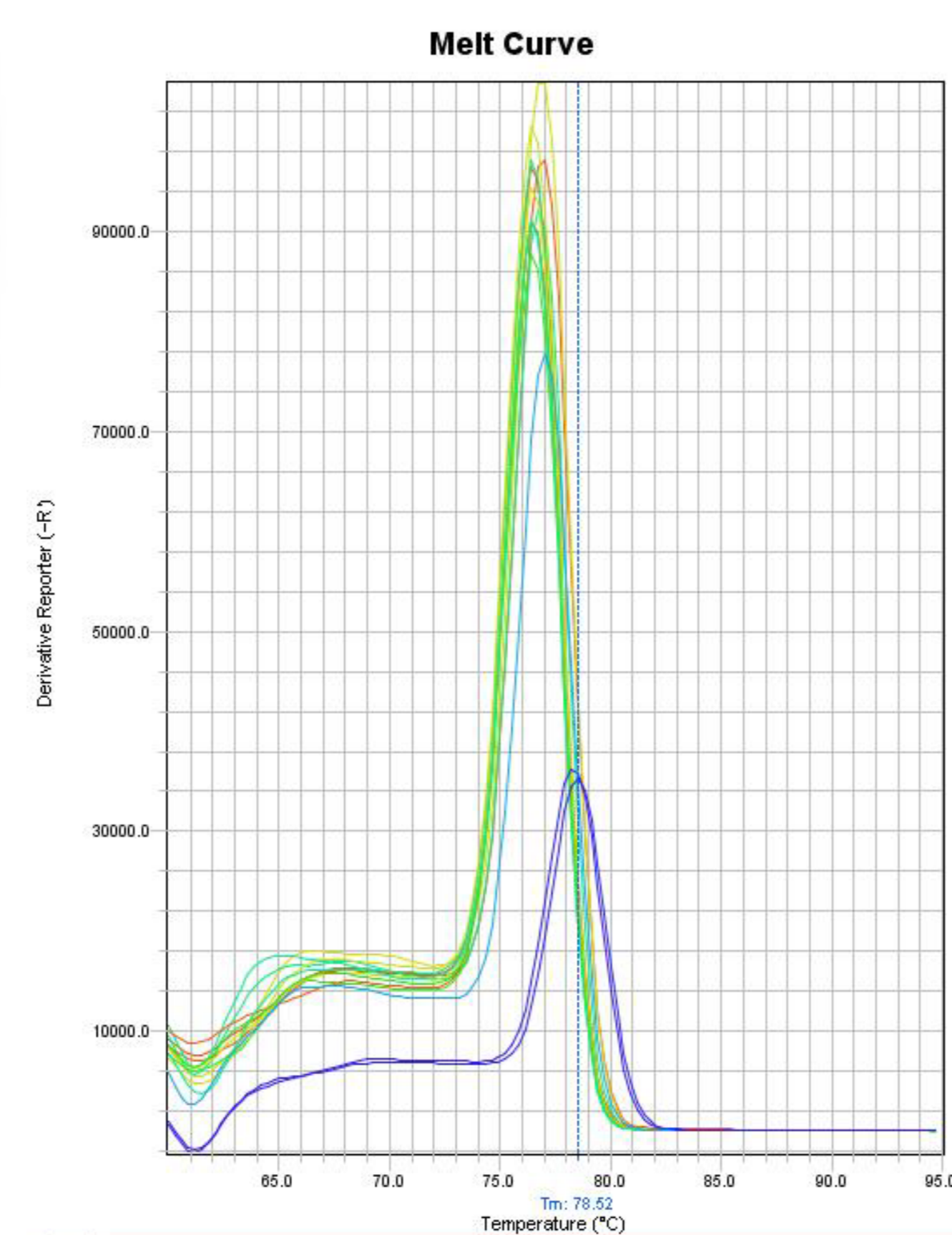
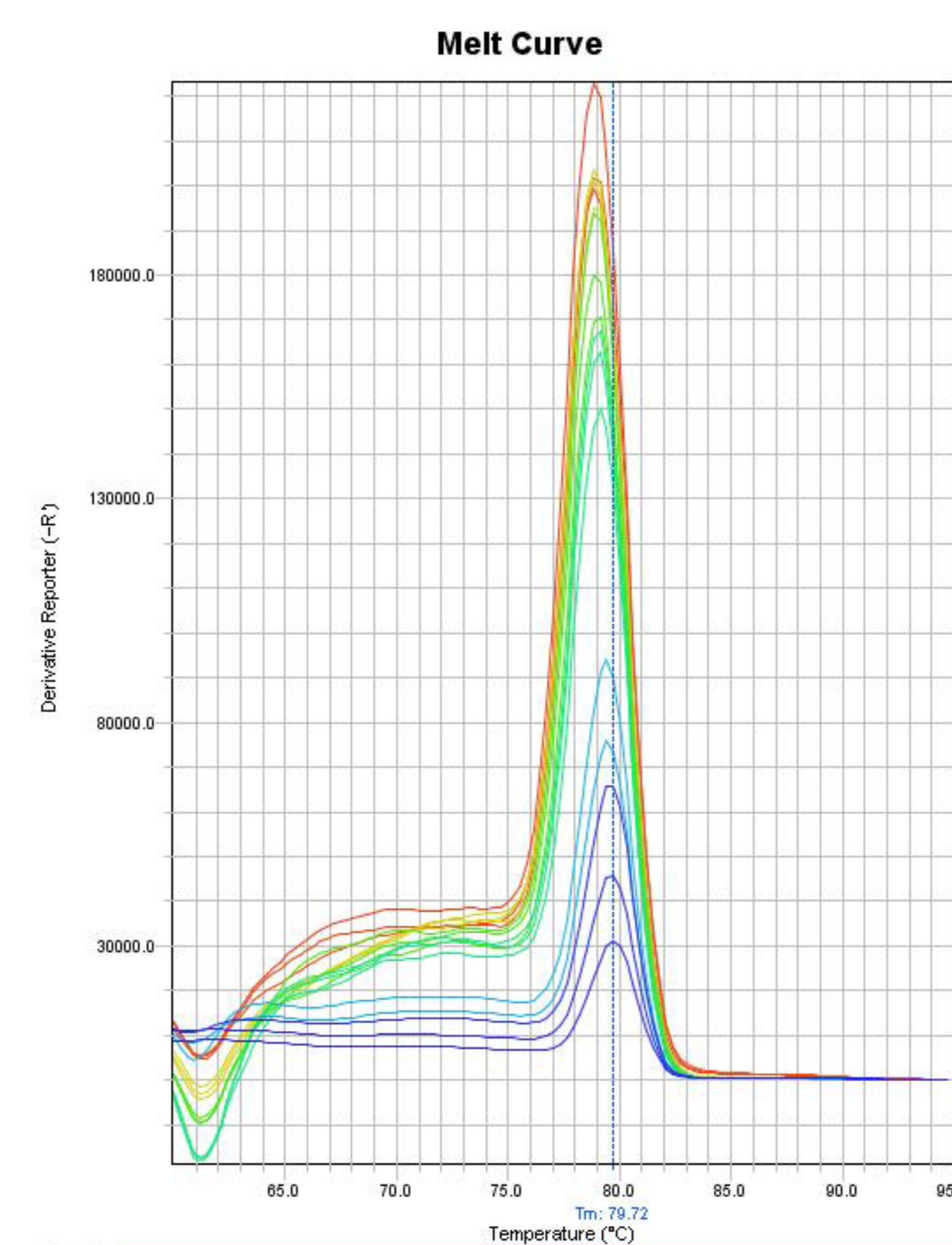
Competitor P

Competitor Q

Competitor QB

Competitor T

Competitor MB

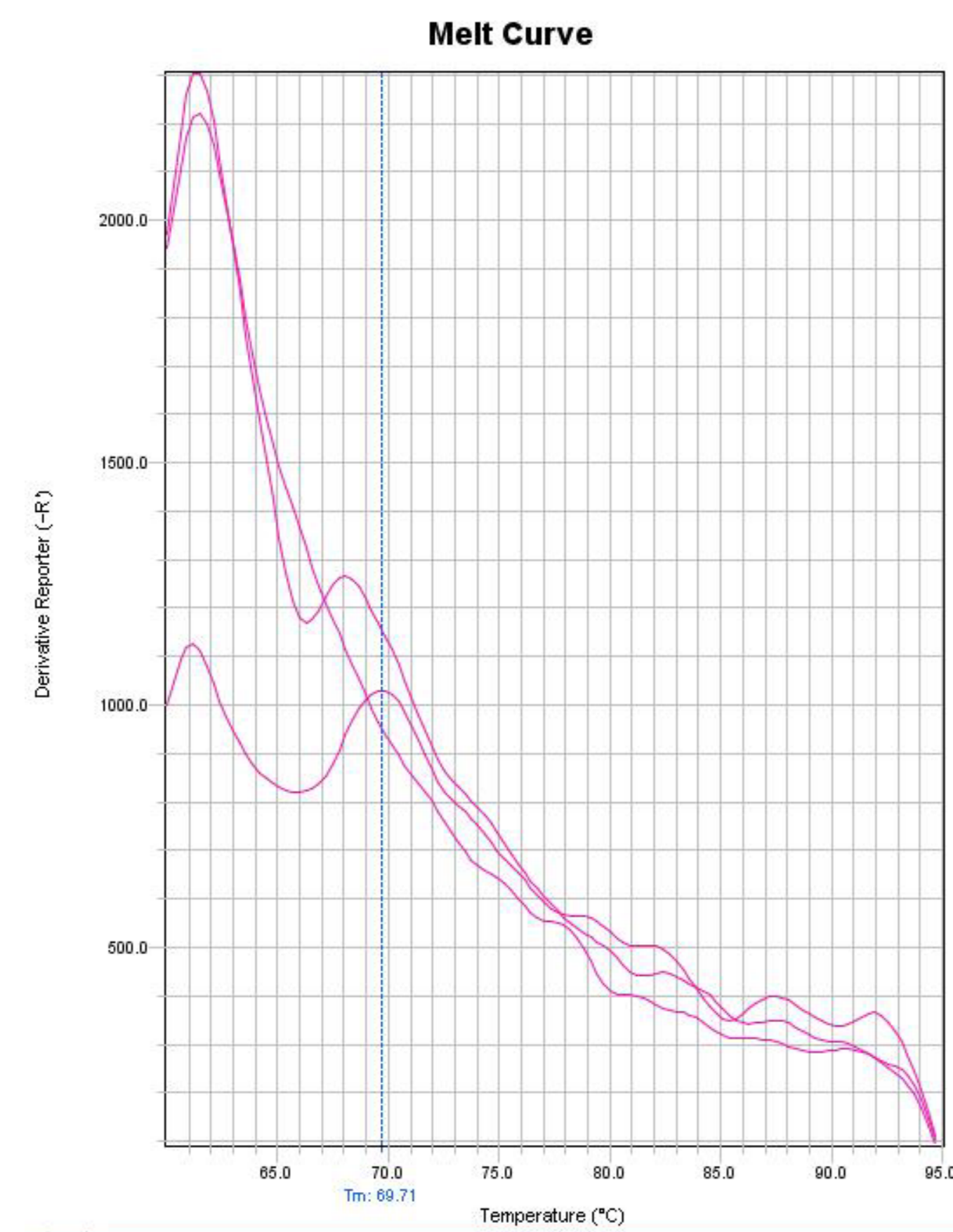




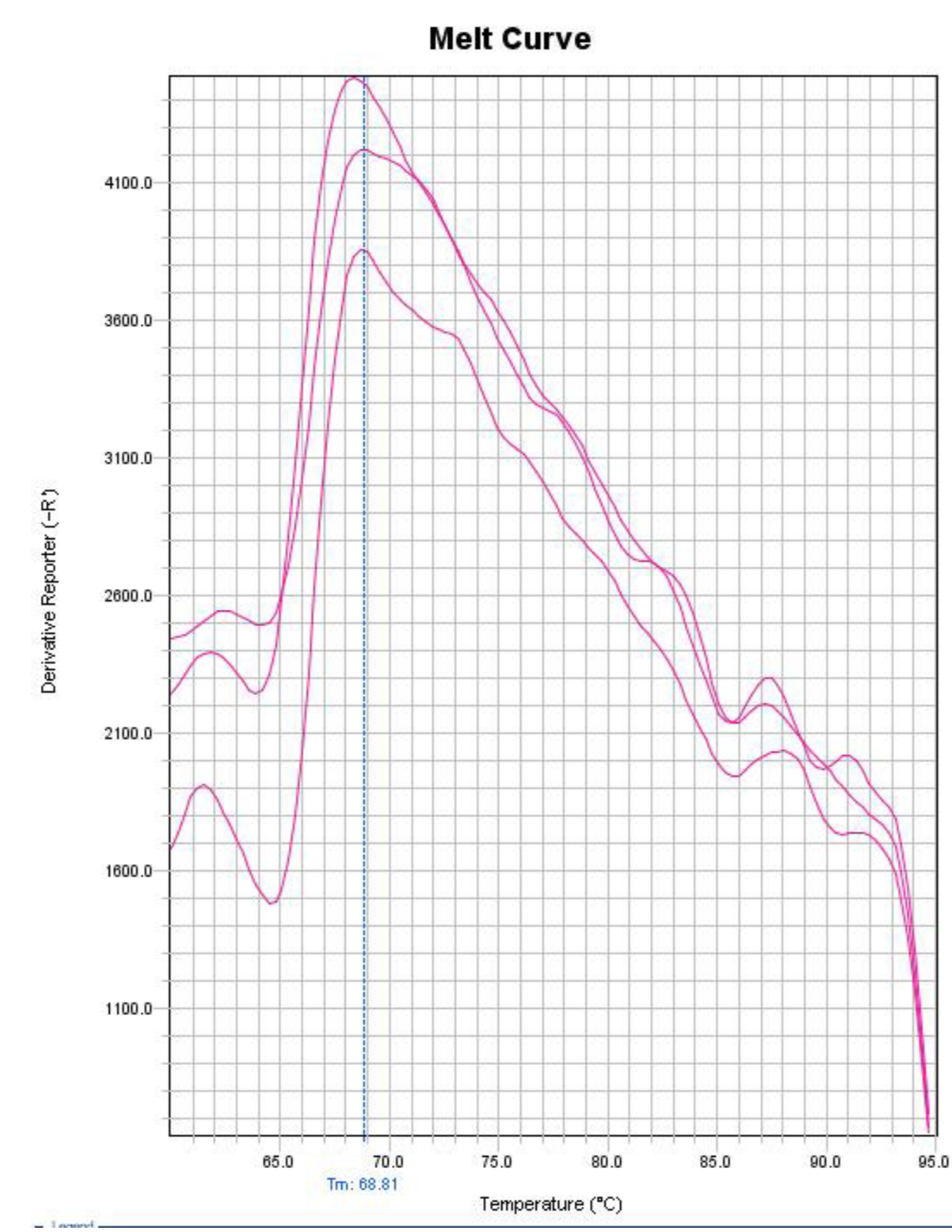
# Detection of Large1 from human gDNA - Melt Curve Analysis of NTCs

NZYTEch's master mix was designed to increase confidence in all qPCR experiments. Absence of primer-dimers nor non-specific amplifications corroborate the specificity of NZYSupreme qPCR Green Master Mix (MB419).

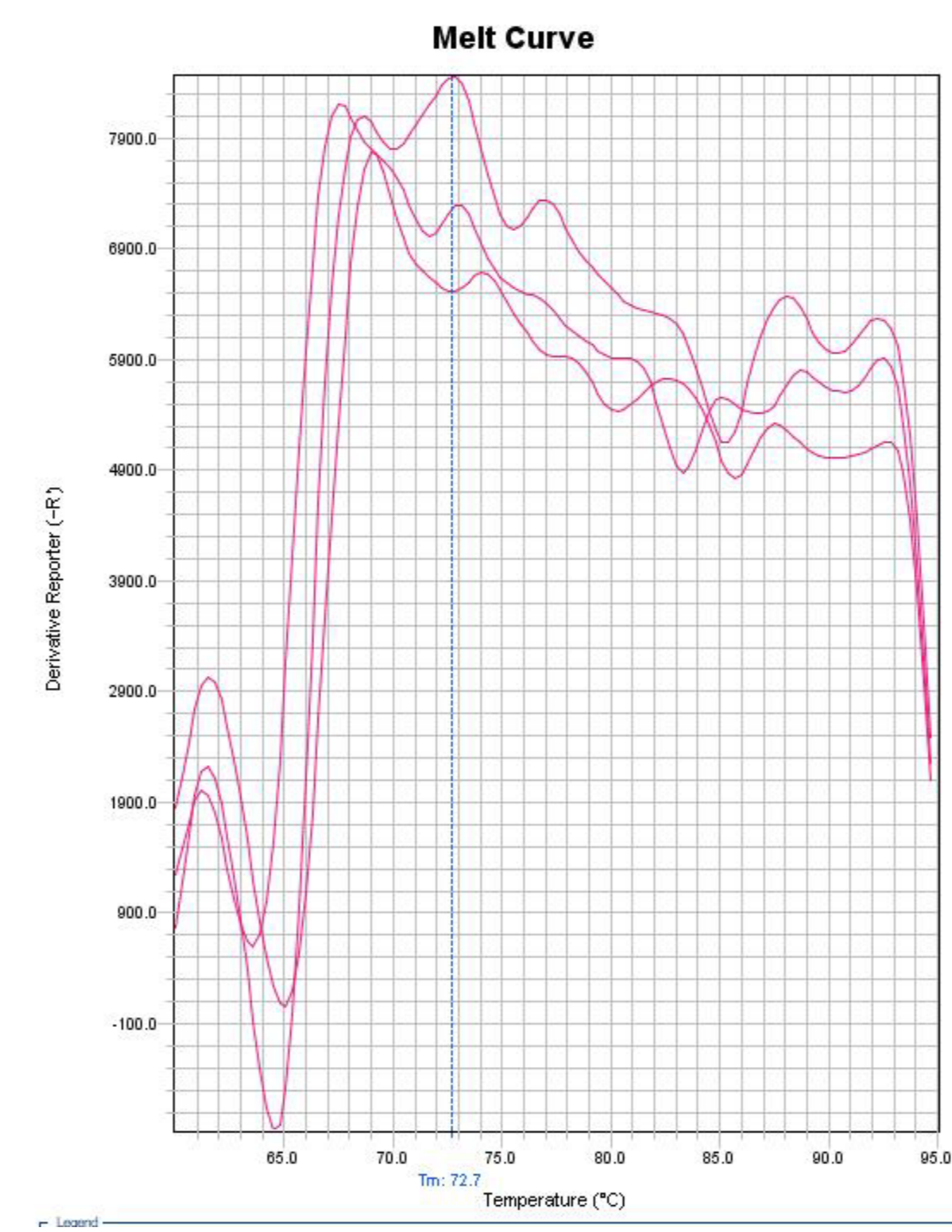
NZYTEch | #MB419



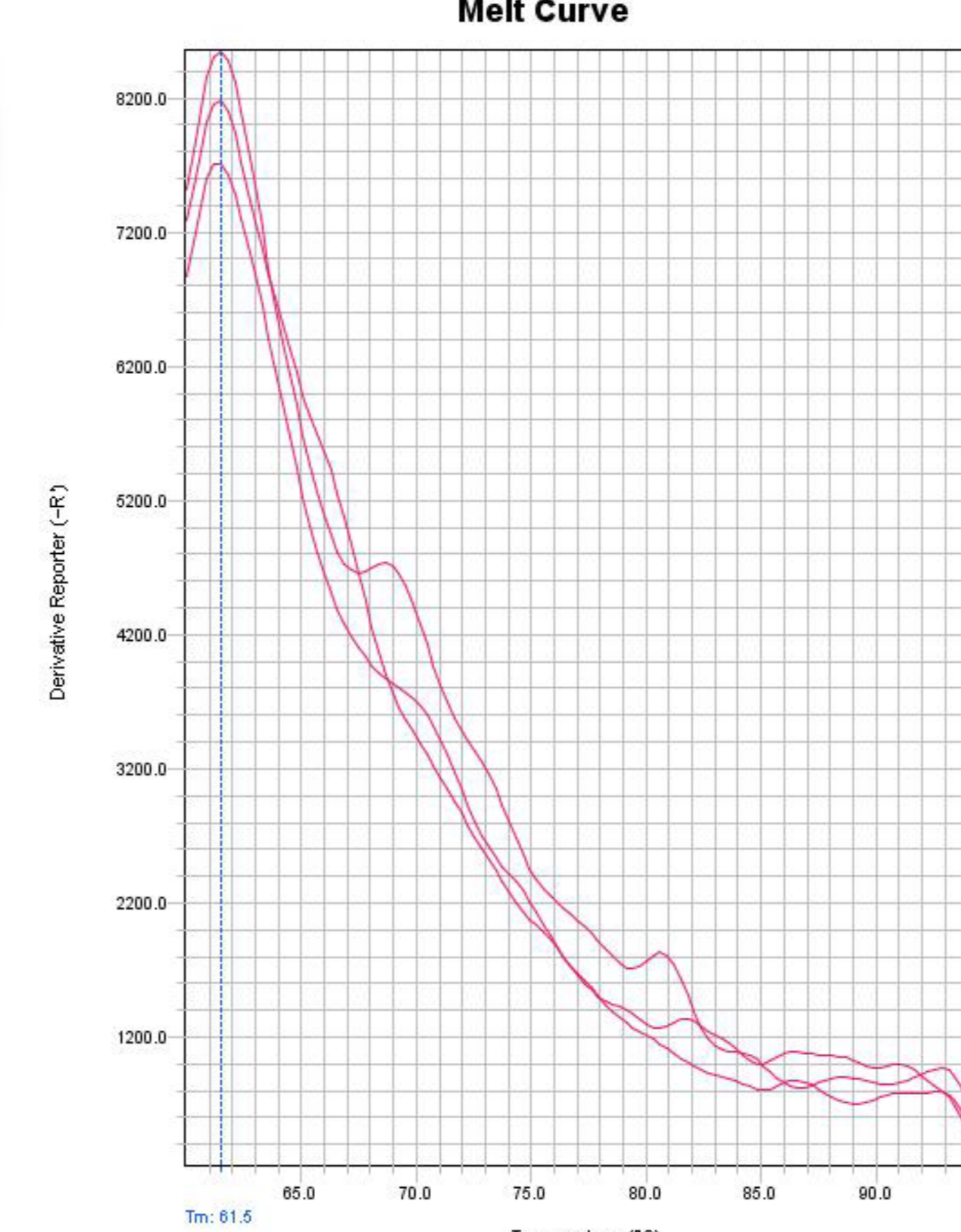
Competitor AB



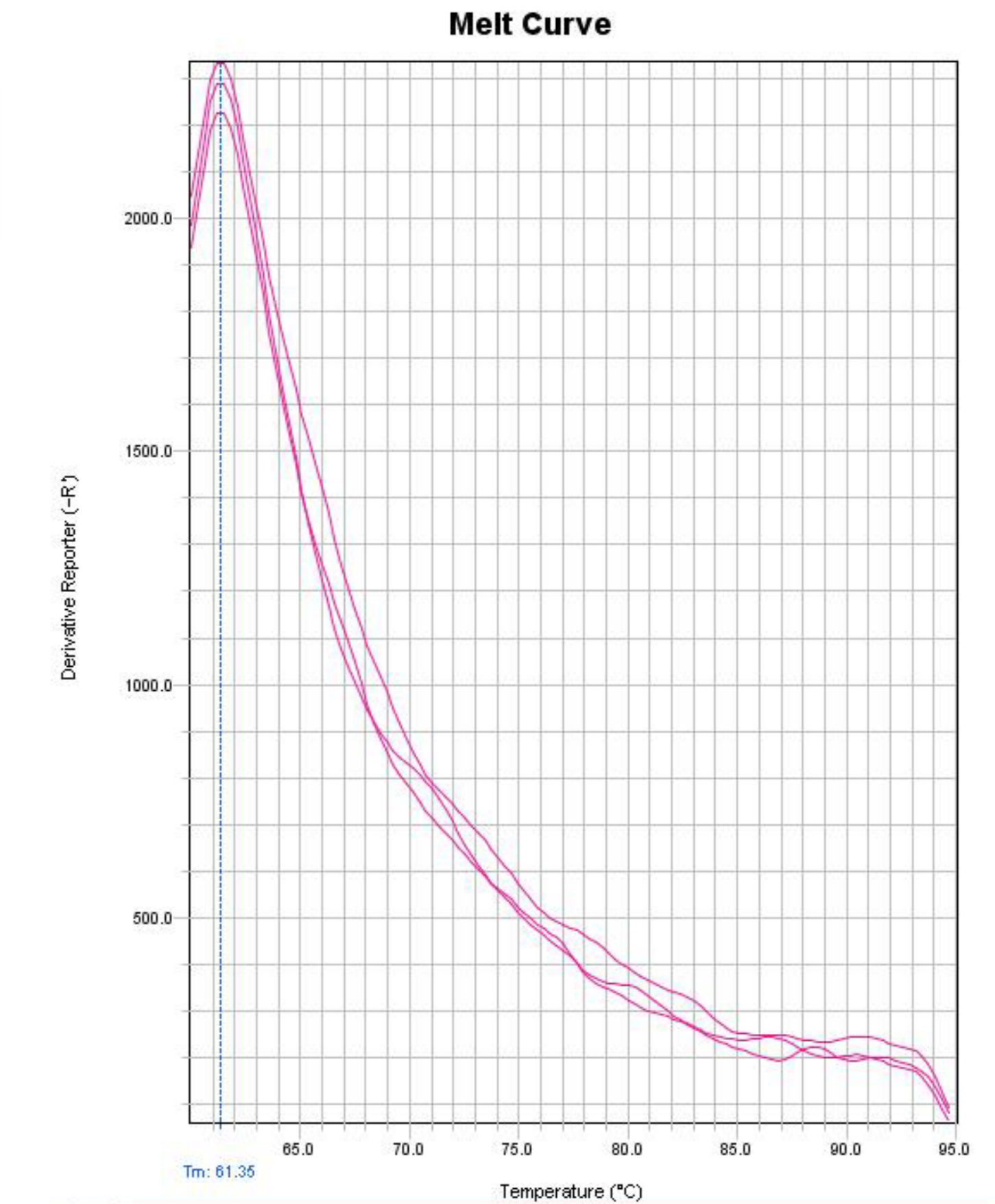
Competitor B



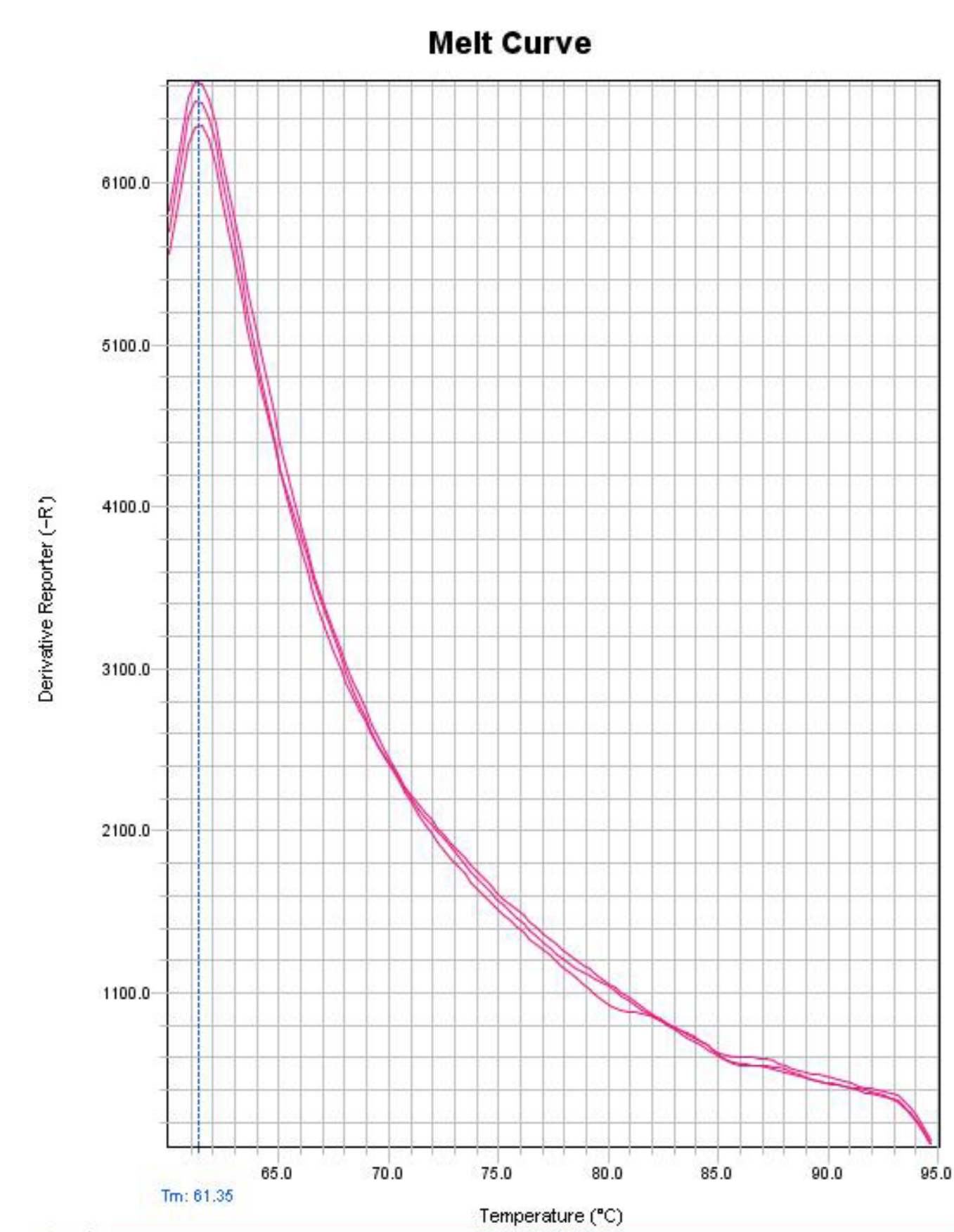
Competitor N



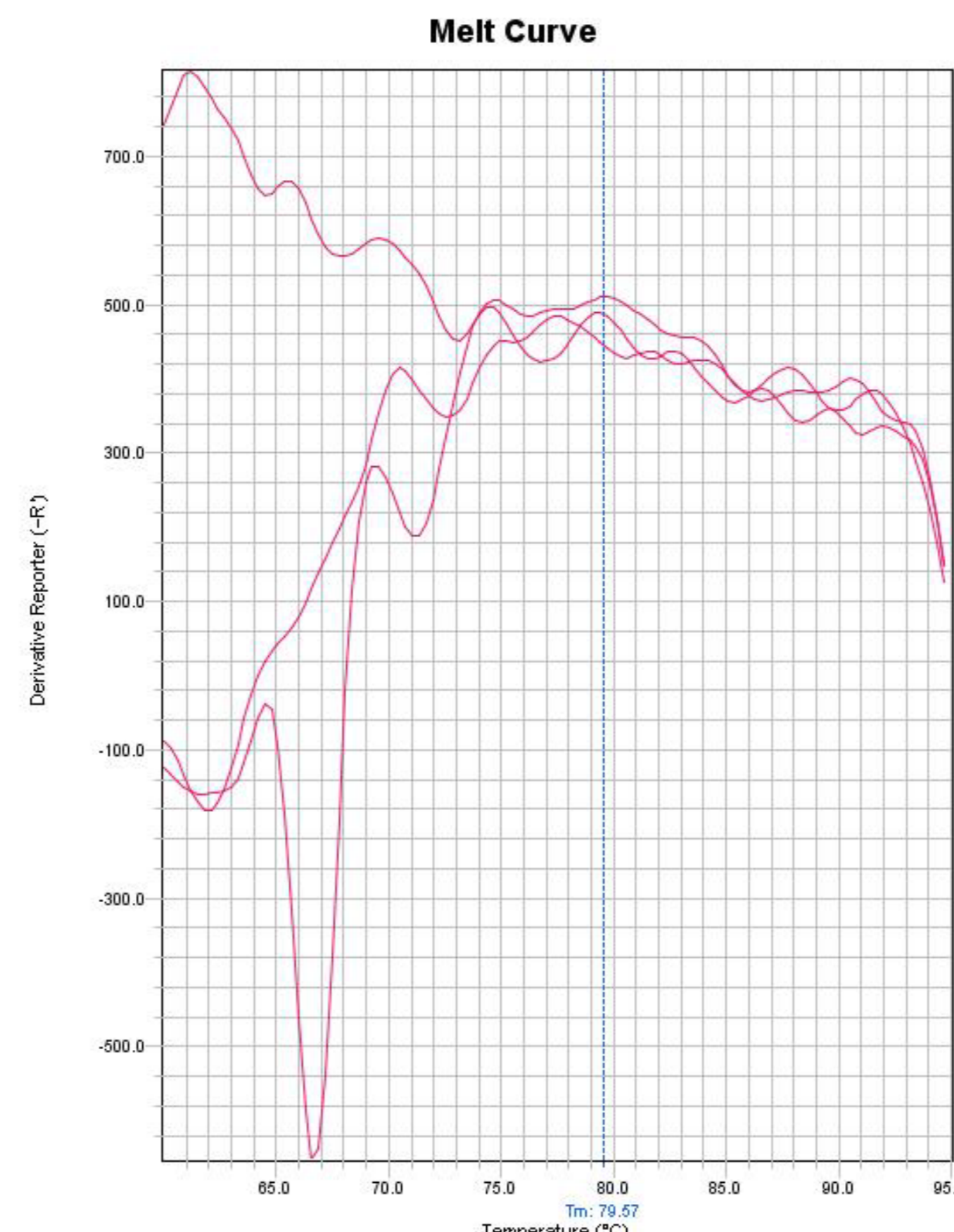
Competitor PB



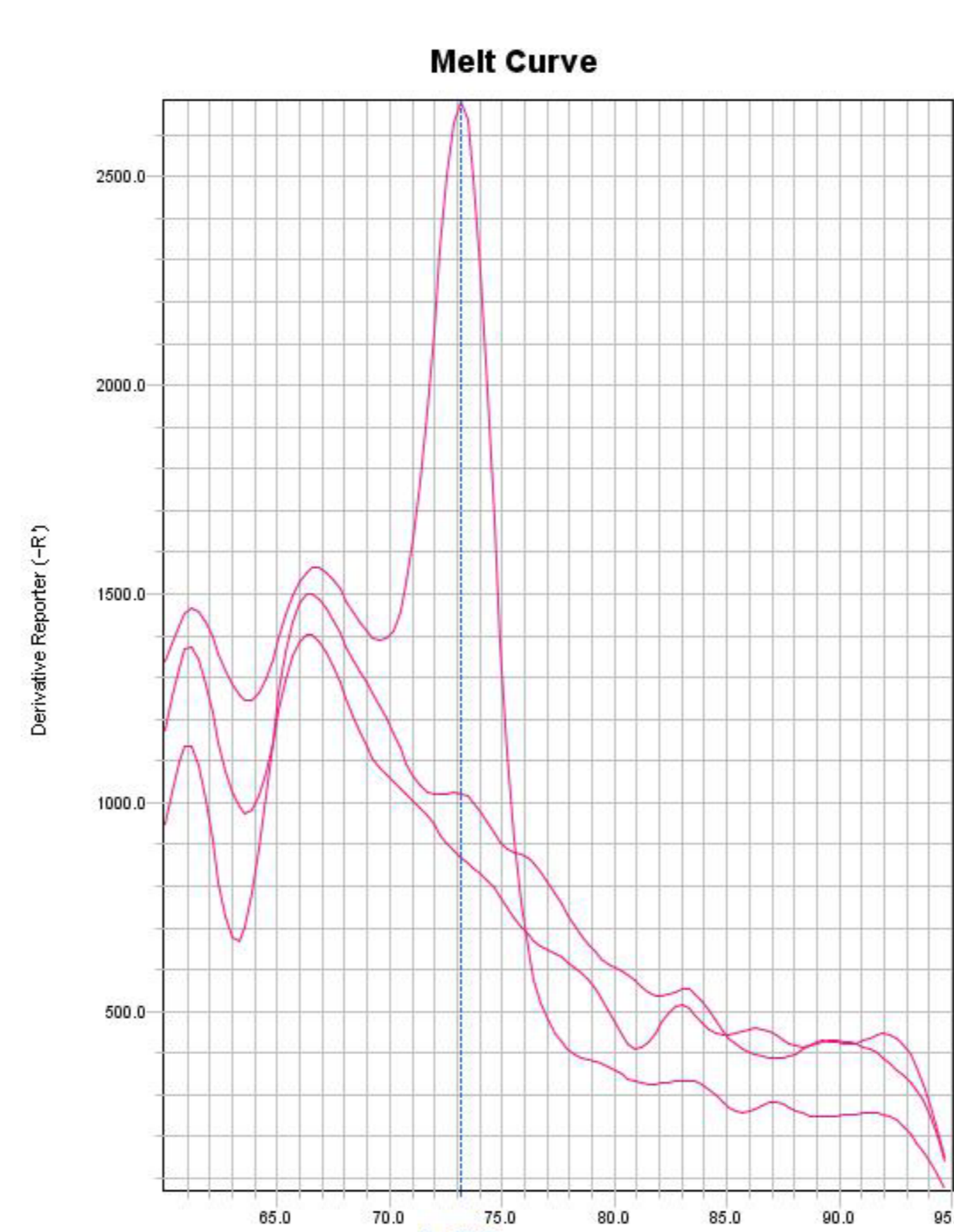
Competitor P



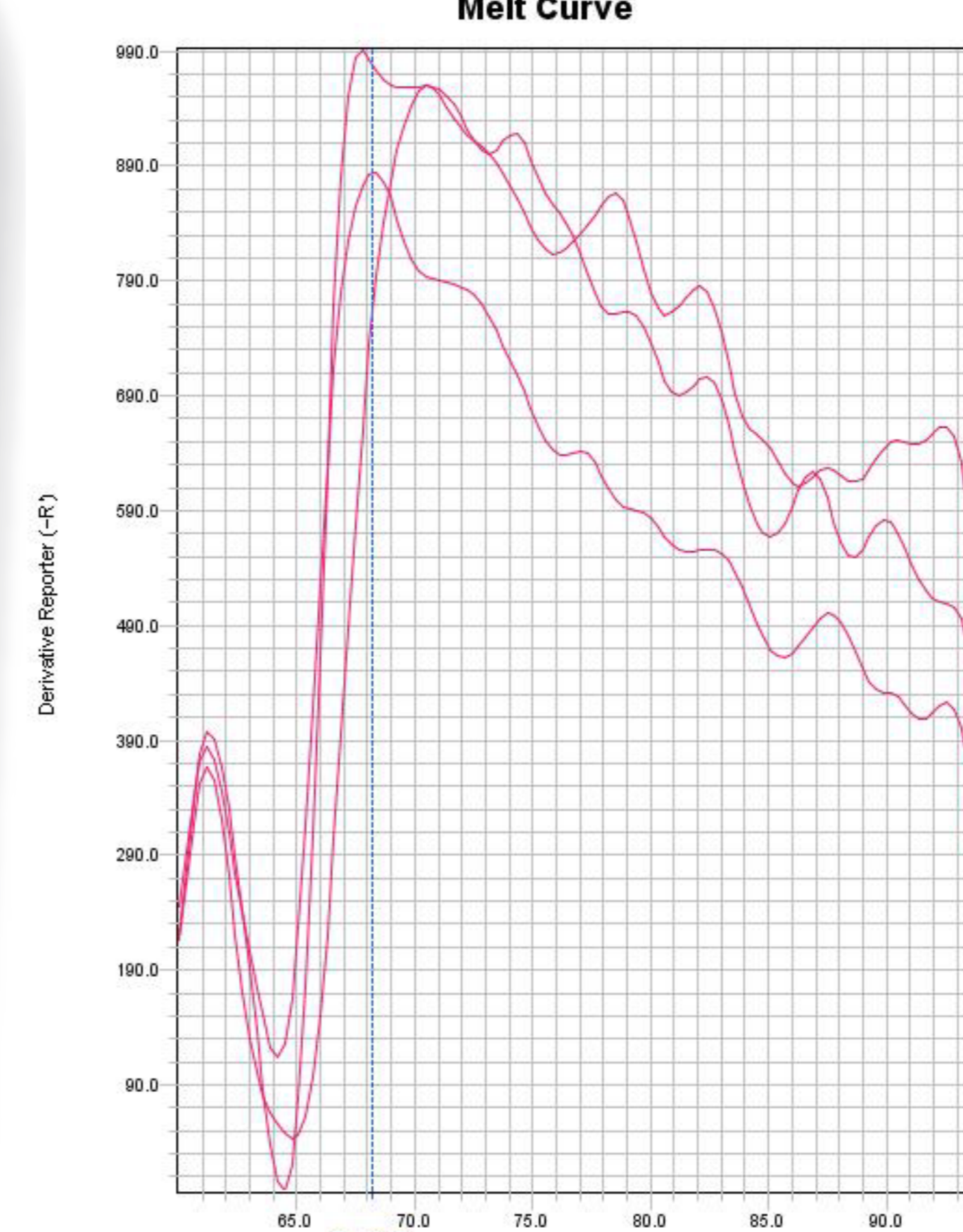
Competitor Q



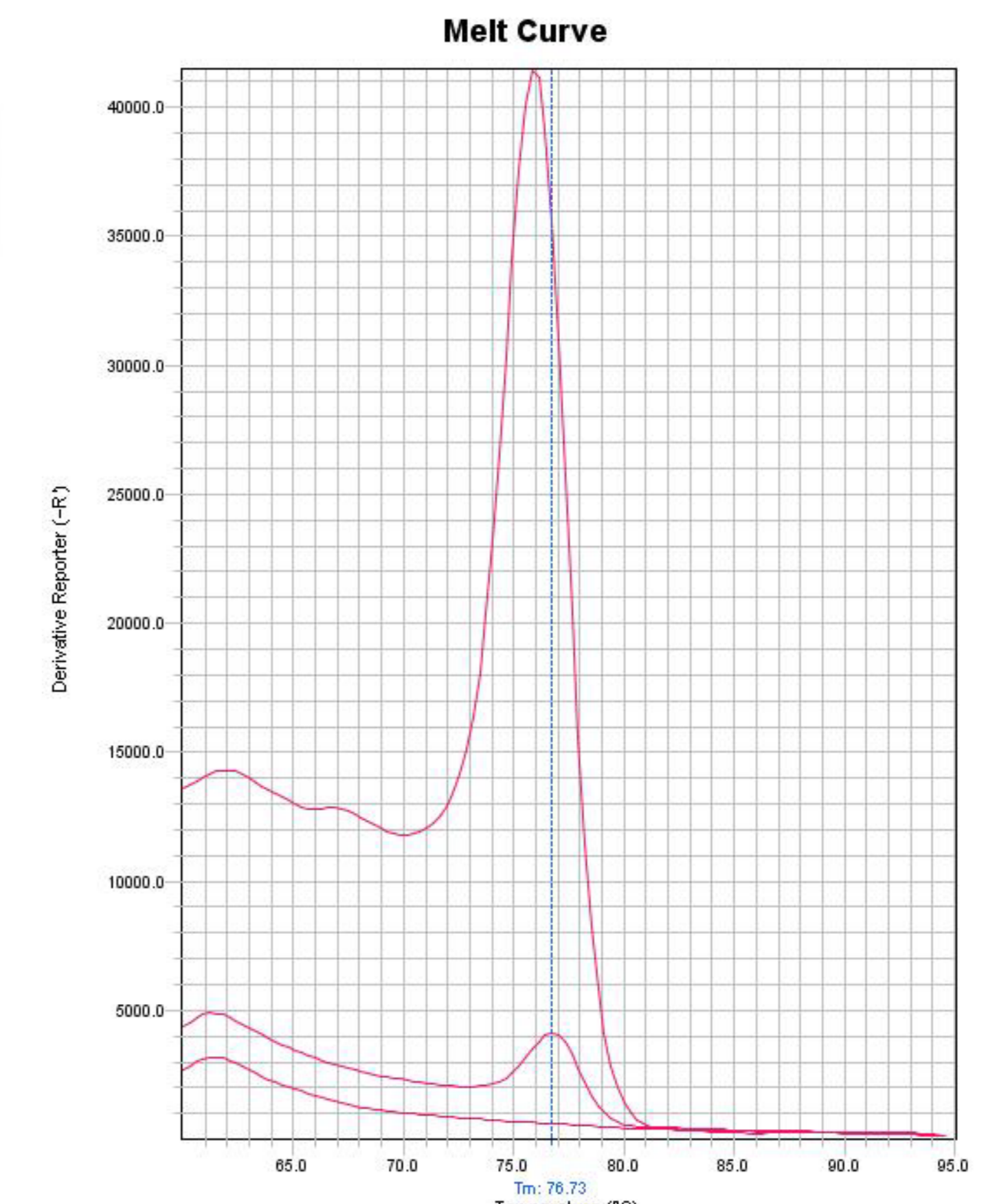
Competitor QB



Competitor T

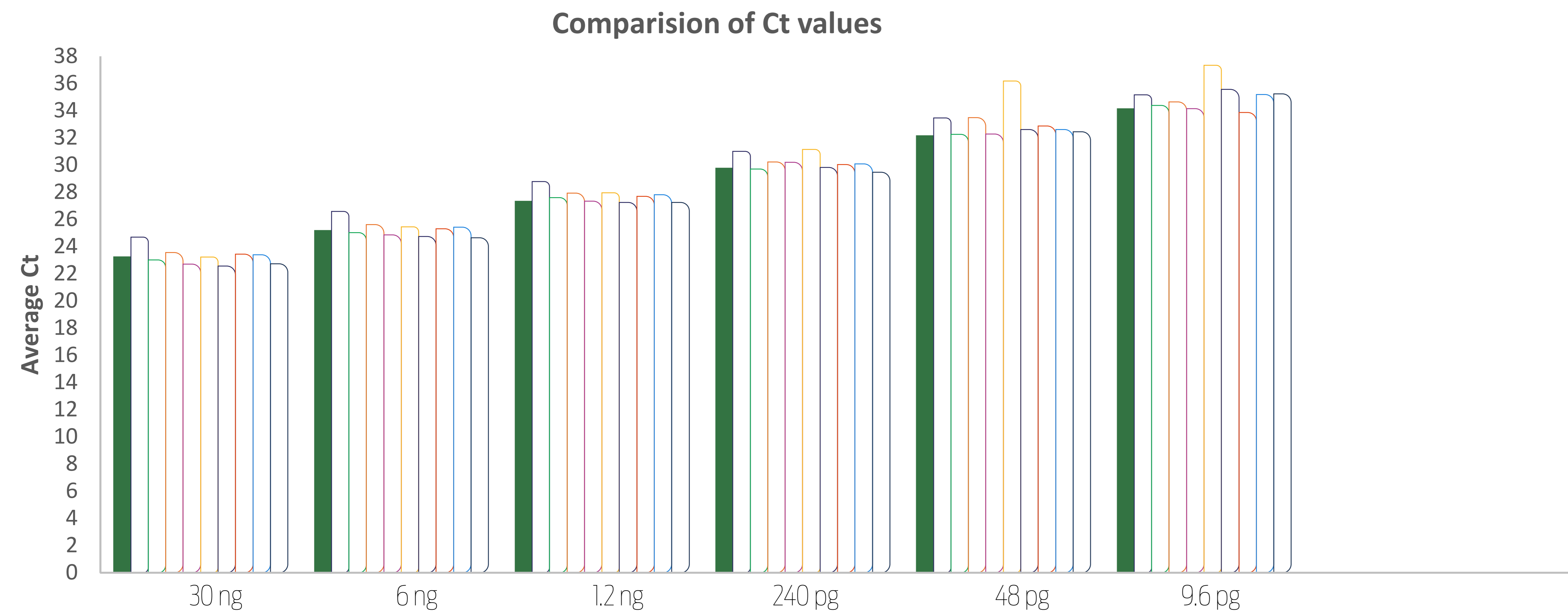


Competitor MB

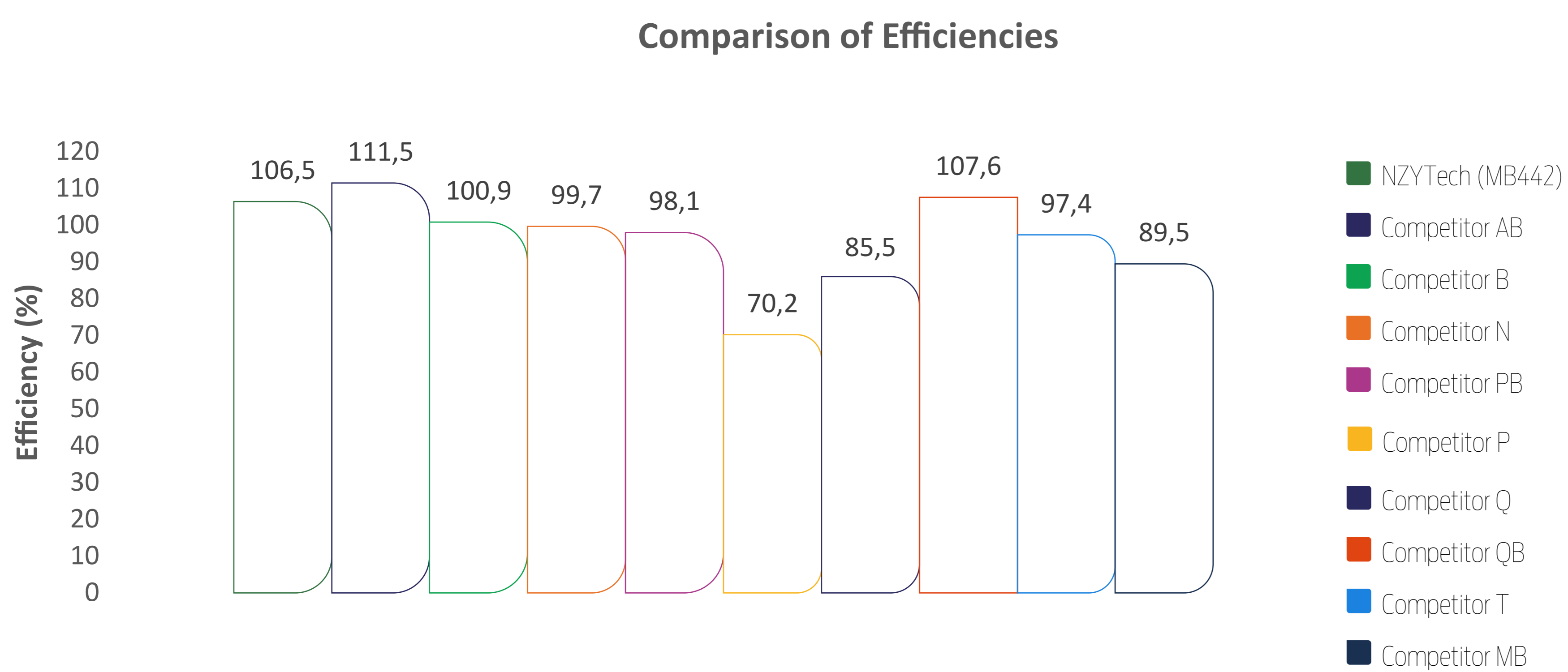


# Global Analysis

## Comparison of Ct Values - Detection of Large1 from human gDNA



	Starting Template (gDNA)					
	30 ng	6 ng	1.2 ng	240 pg	48 pg	9.6 pg
■ NZYTech (MB442)	23,3	25,2	27,4	29,8	32,2	34,2
■ Competitor AB	24,7	26,6	28,8	31,0	33,5	35,2
■ Competitor B	23,0	25,0	27,6	29,7	32,3	34,4
■ Competitor N	23,6	25,6	27,9	30,2	33,5	34,7
■ Competitor PB	22,7	24,9	27,4	30,2	32,3	34,2
■ Competitor P	23,2	25,5	27,9	31,1	36,2	37,3
■ Competitor Q	22,6	24,7	27,2	29,8	32,6	35,6
■ Competitor QB	23,4	25,3	27,7	30,0	32,9	33,9
■ Competitor T	23,4	25,4	27,8	30,1	32,6	35,2
■ Competitor MB	22,7	24,6	27,3	29,5	32,4	35,2



### Ct values for NTC\*

	Replicates		
	1	2	3
■ NZYTech (MB442)	Undetermined	Undetermined	Undetermined
■ Competitor AB	Undetermined	Undetermined	Undetermined
■ Competitor B	Undetermined	Undetermined	Undetermined
■ Competitor N	Undetermined	Undetermined	Undetermined
■ Competitor PB	Undetermined	Undetermined	Undetermined
■ Competitor P	Undetermined	Undetermined	Undetermined
■ Competitor Q	Undetermined	Undetermined	Undetermined
■ Competitor QB	Undetermined	Undetermined	Undetermined
■ Competitor T	Undetermined	Undetermined	Undetermined
■ Competitor MB	Undetermined	Undetermined	37,5

(\*) NTC = No template control