

The Problem (1)

Partial Profiles due to:

- Low Template Amount
- Inhibition
- Degradation

The Problem (2)

Partial Profiles due to:

Interference with electrokinetic injection of STR amplicons by primers, nucleotides and salts from PCR reaction

Only 4% of PCR reaction is used for electrophoresis

The Solution

Remove primers, nucleotides and salts from post-PCR sample

Use **ALL** of PCR reaction for electrophoresis

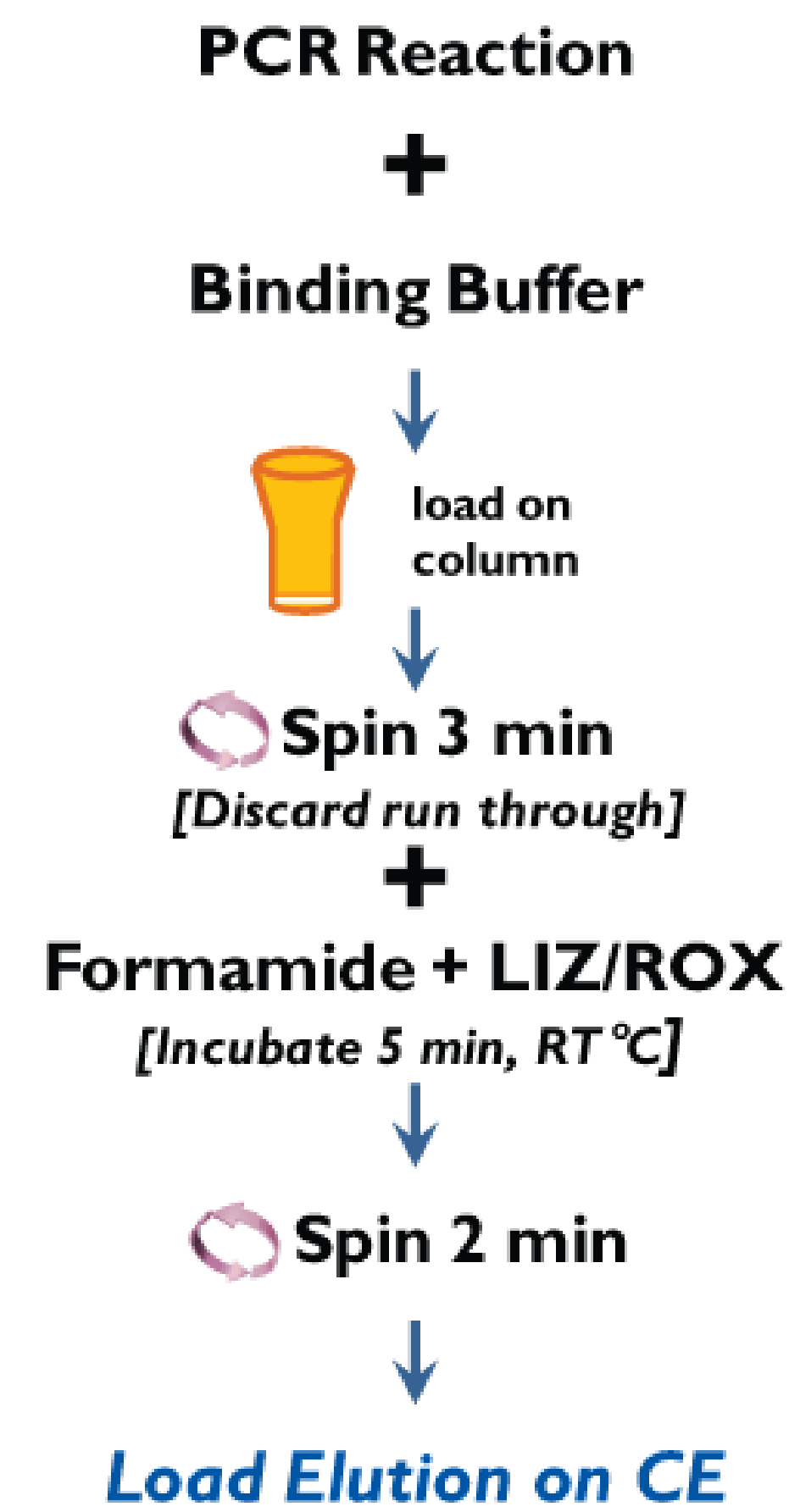
Advantages of *Amplicon Rx™*

Quick 3 step procedure
(10 min Prep Time)

CE Ready Elution with Formamide/SS mix

95% of PCR reaction is used for CE
(ALL what is left after first CE run)

Amplicon Rx™ workflow



Validation Method

Samples were amplified with either PowerPlex 16, Identifiler, or Y-filer multiplexes. After verification of the DNA profiles, samples were diluted with amplification negative control samples to simulate low copy number (LCN) samples. PCR reaction volumes were varied as shown: quarter (6.25µL), half (12.5µL), and full (25µL) size PCR reaction from which 5µL, 11µL and 23.5µL of LCN Power Plex16, Identifiler, or Y-filer samples were processed with *AmpliconRx™*.

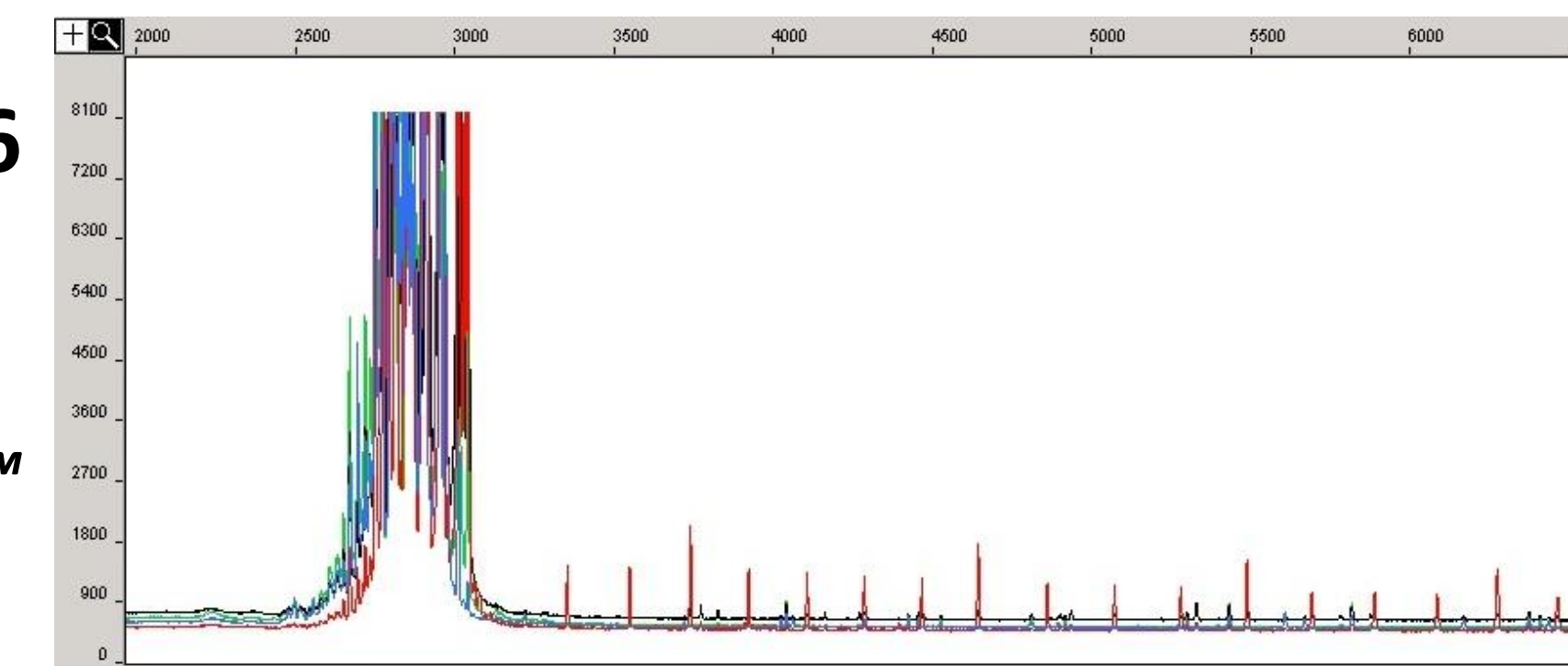
Results Summary

In all samples analyzed, *Amplicon Rx™* boosted peaks which were originally present in the sample. A 50 RFU threshold was used for peak detection. *Amplicon Rx™* did not introduce 'new' or extraneous alleles - allelic peak height ratios observed in untreated samples (including mixtures) were preserved using *Amplicon Rx™*

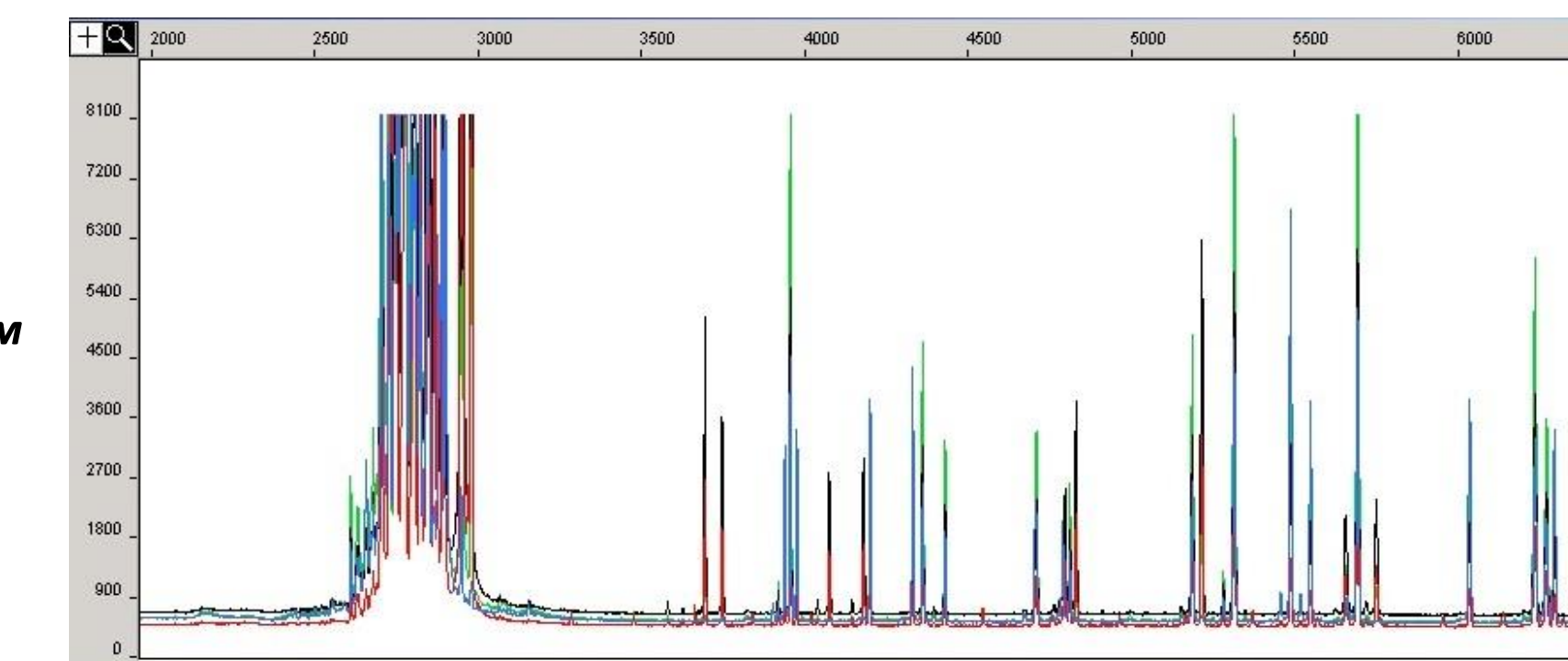
Proof of Concept

PowerPlex 16

Before *Amplicon Rx™*

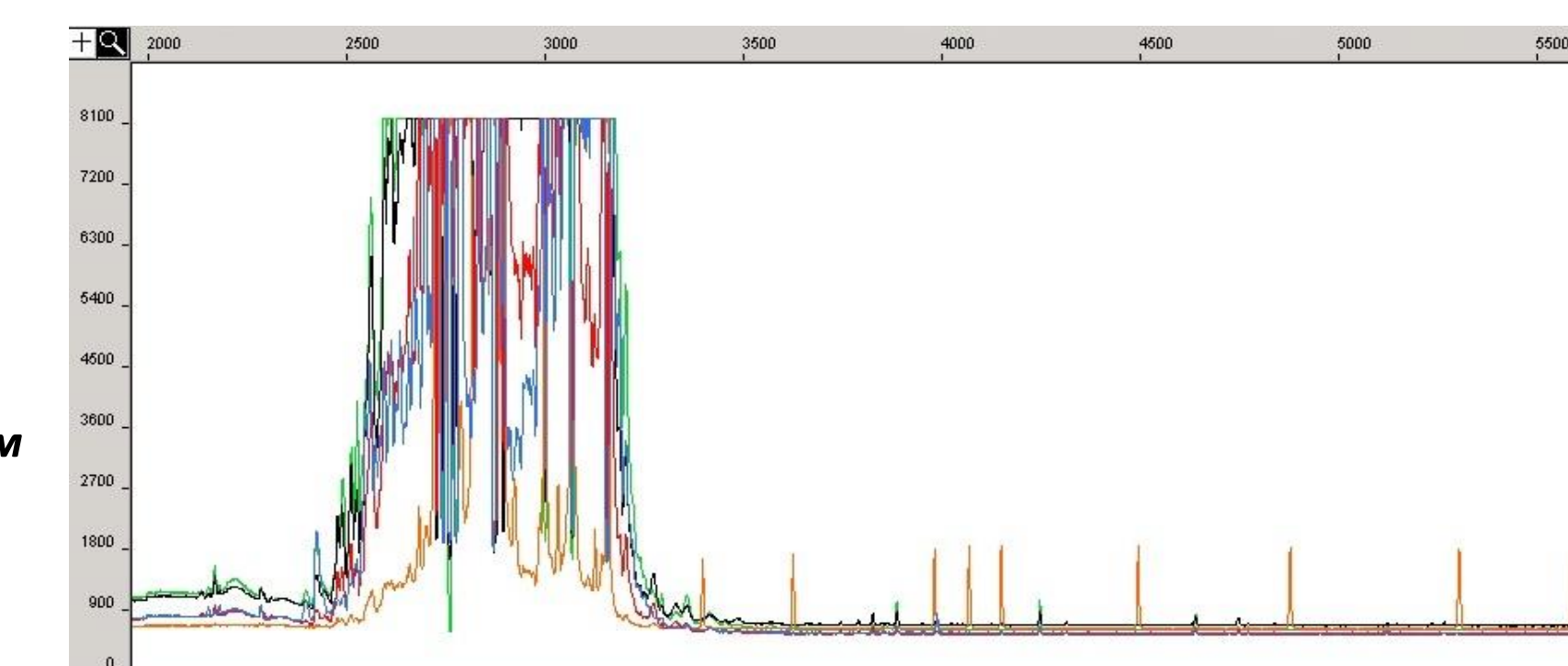


After *Amplicon Rx™*

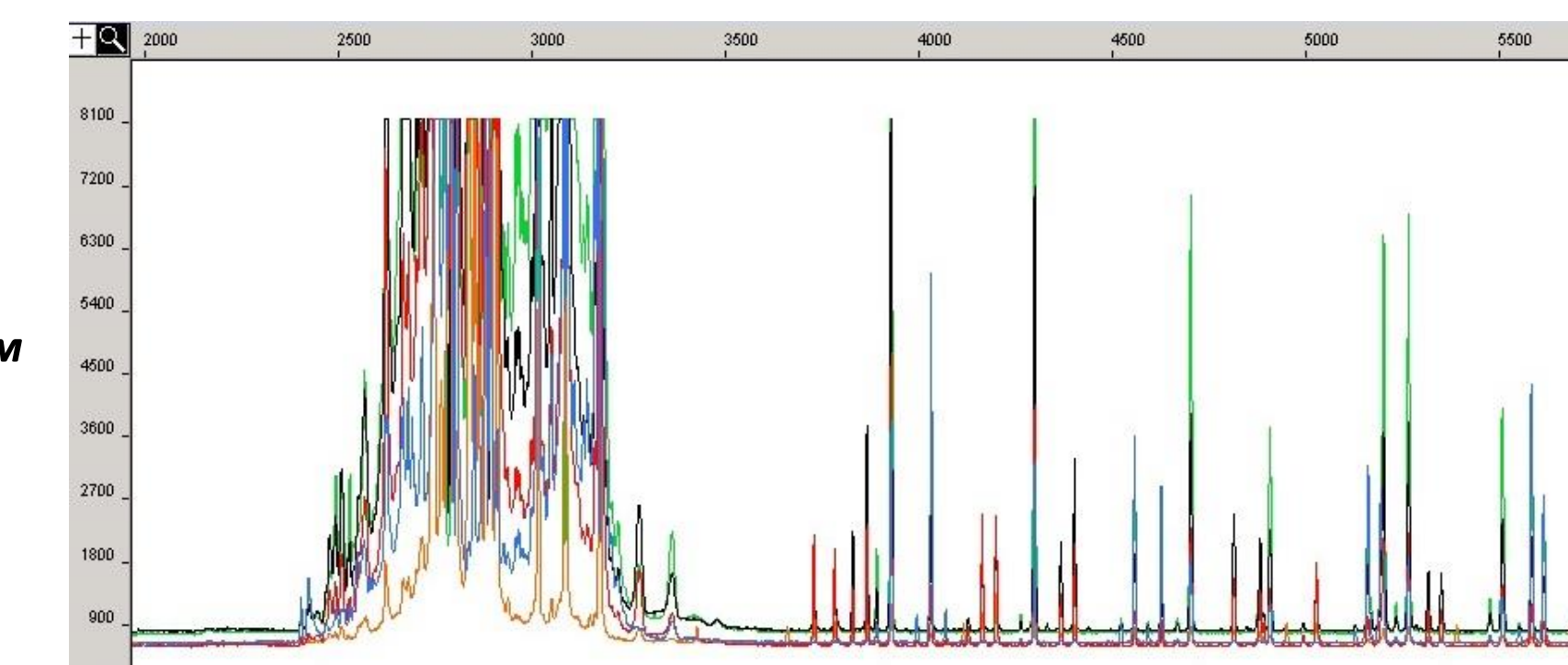


Identifiler

Before *Amplicon Rx™*



After *Amplicon Rx™*

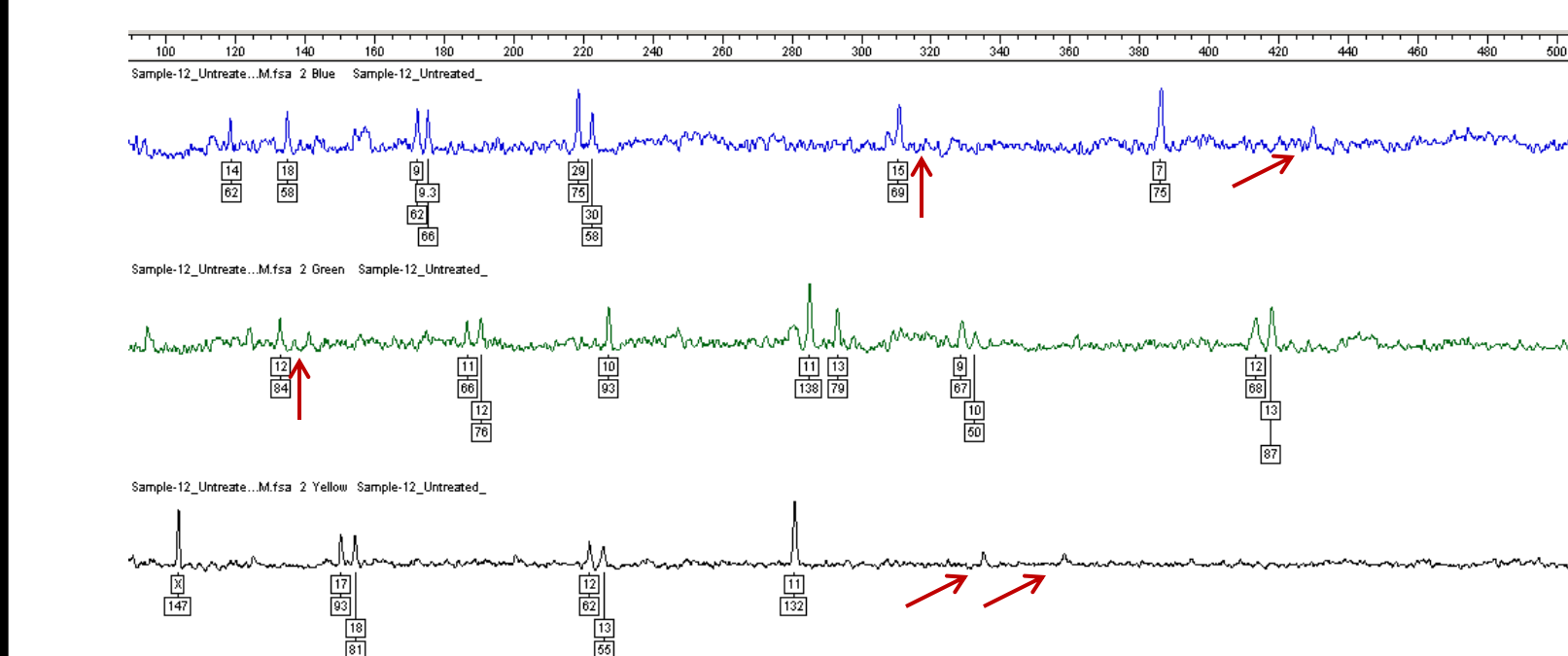


Amplicon Rx™ RFU Boost

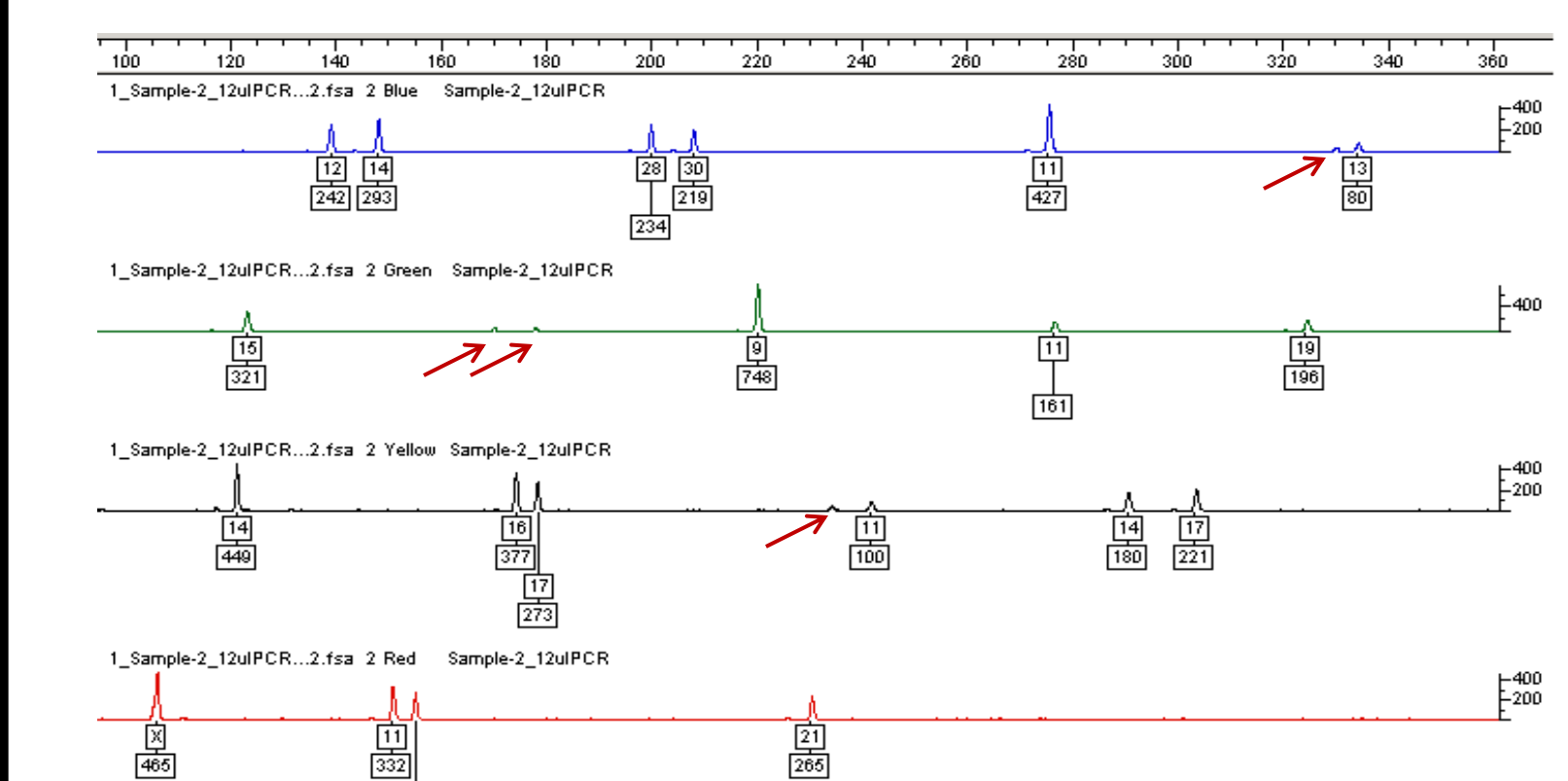
	PowerPlex 16	Identifiler
6.25 µL PCR	x 3 - 5	x 3 - 5
12.5 µL PCR	x 7 - 10	x 7 - 10
25.0 µL PCR	x 13 - 20	x 13 - 20

Casework Samples

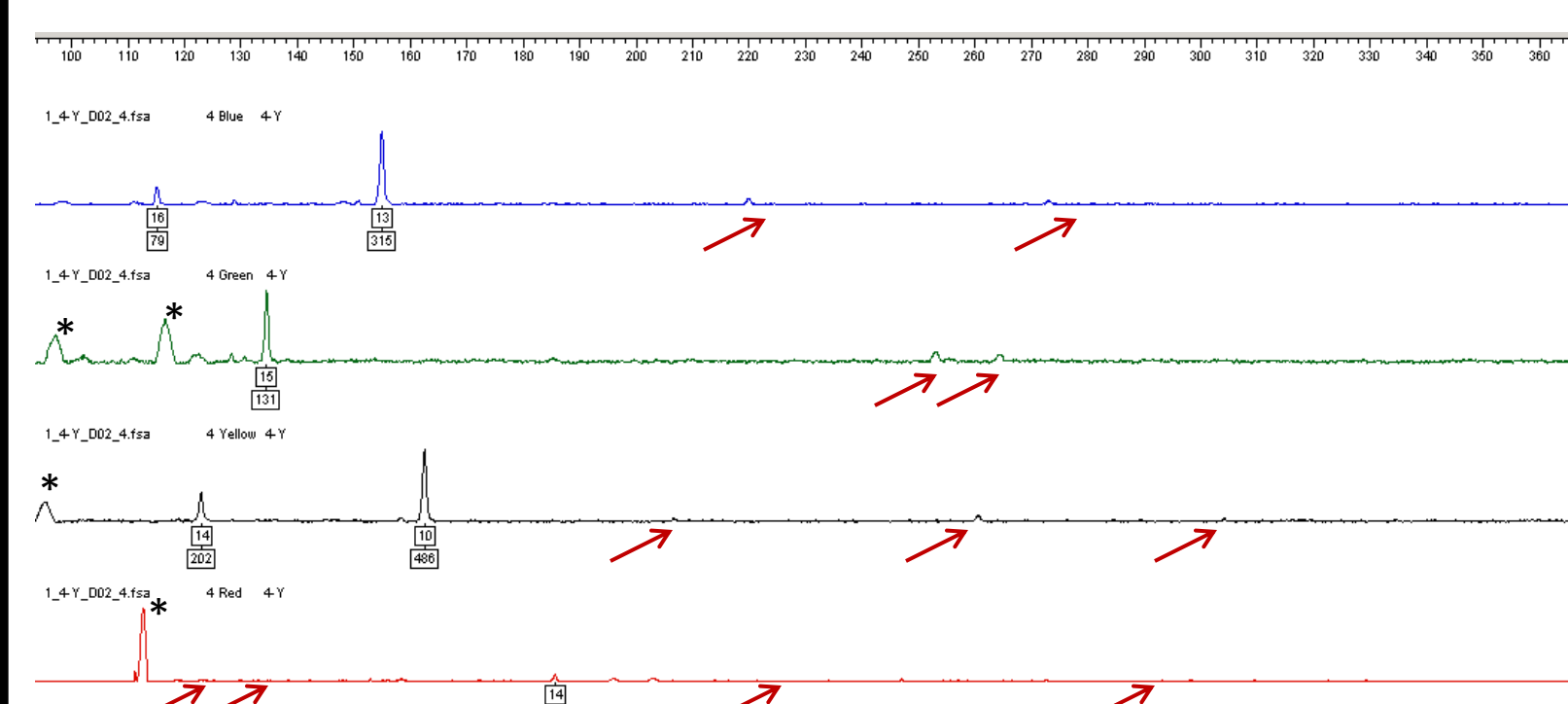
Before *Amplicon Rx™*



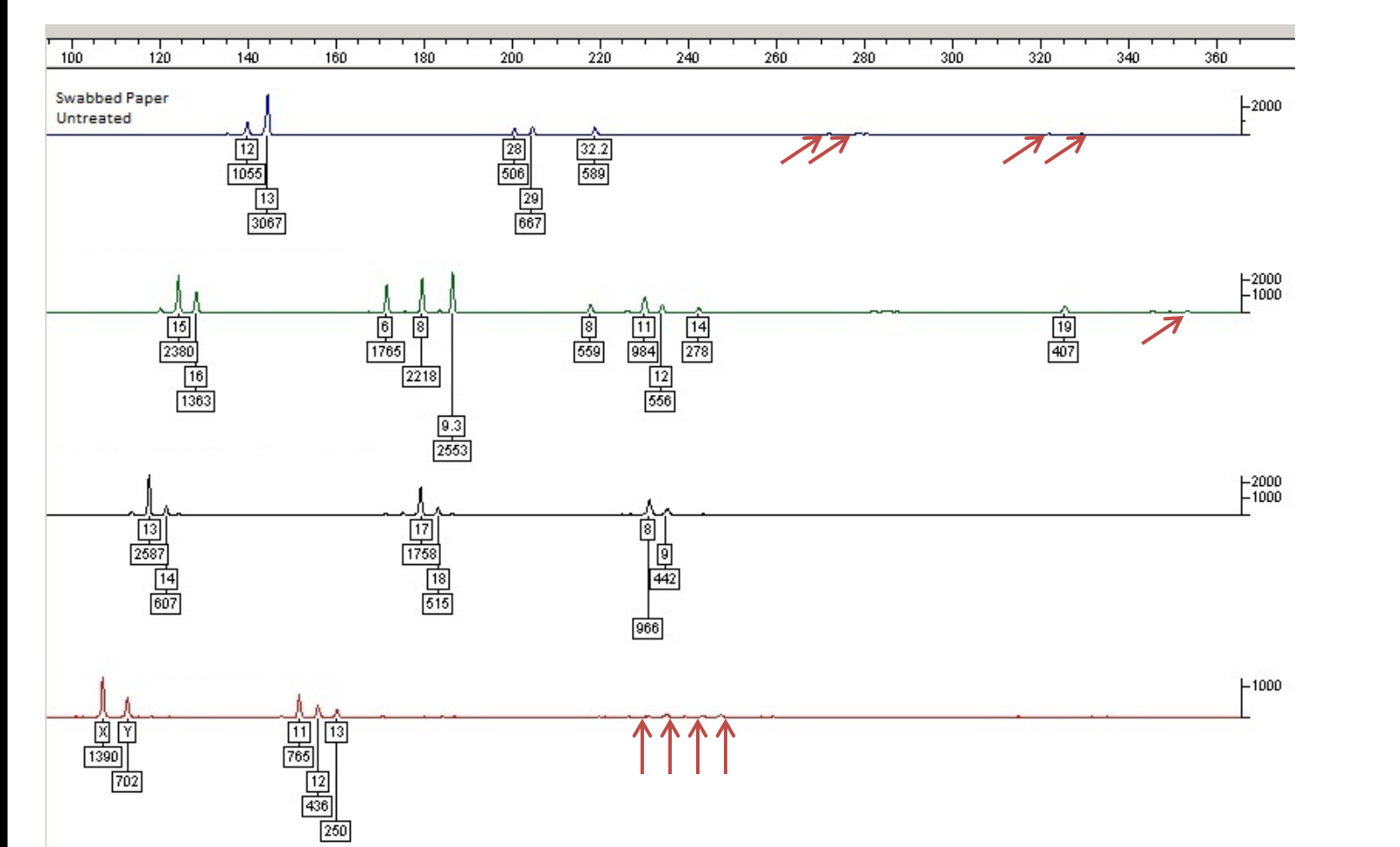
PowerPlex16 sample.



Identifiler sample.



Y-filer sample (* - dye blob artifacts)



Multiple contributor sample (Identifiler)

After *Amplicon Rx™*

