

What is Real-Time PCR?

A PCR system in which we can monitor the amplification reaction as it is occurring

Real-Time PCR incorporates the ability to directly measure and quantify the reaction while amplification is taking place

TaqMan PCR Chemistry

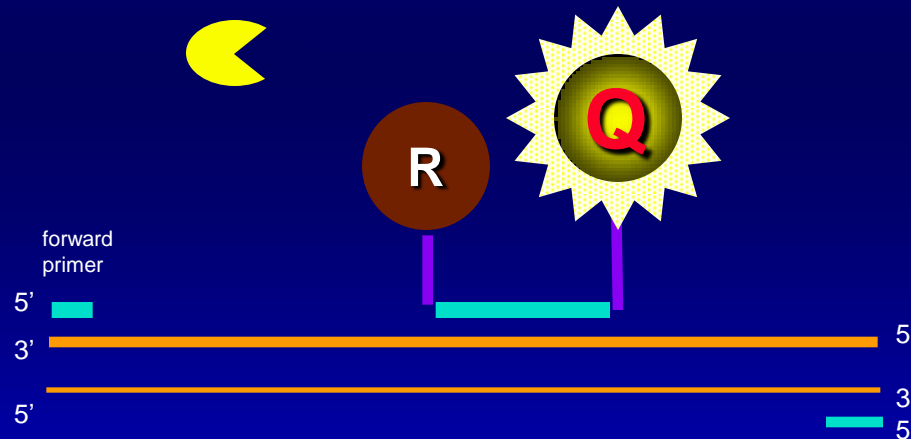
Denaturation → Annealing



• Polymerisation

R = Reporter

Q = Quencher



TaqMan PCR Chemistry

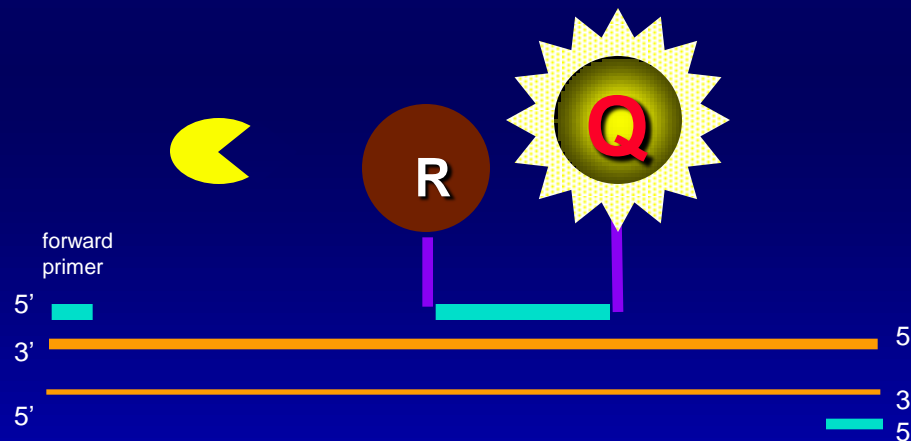
Denaturation → Annealing



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TaqMan PCR Chemistry

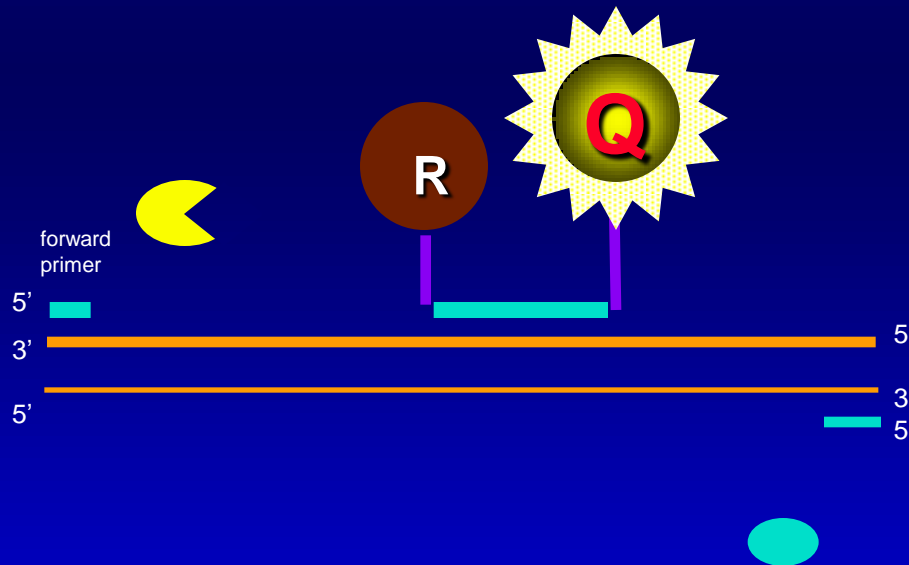
Denaturation → Annealing



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TaqMan PCR Chemistry

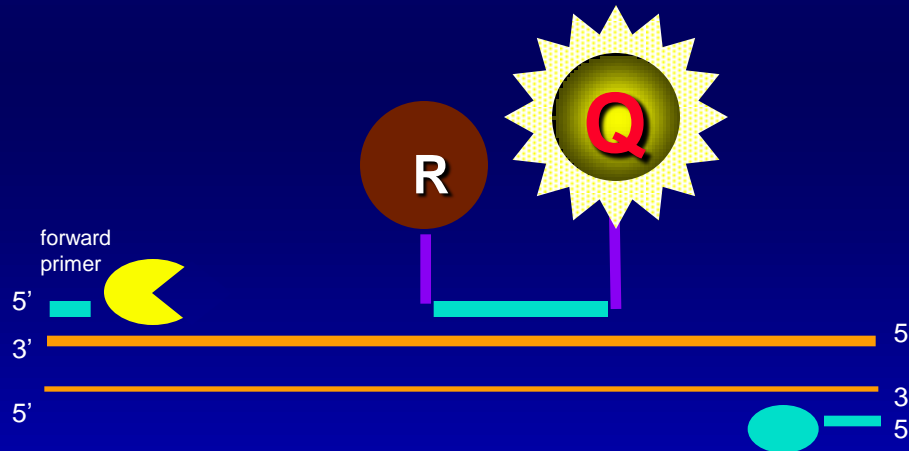
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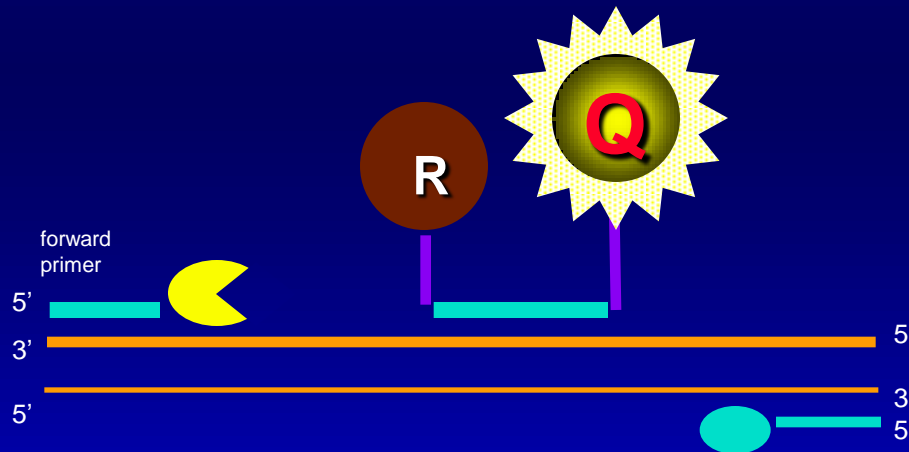
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TaqMan PCR Chemistry

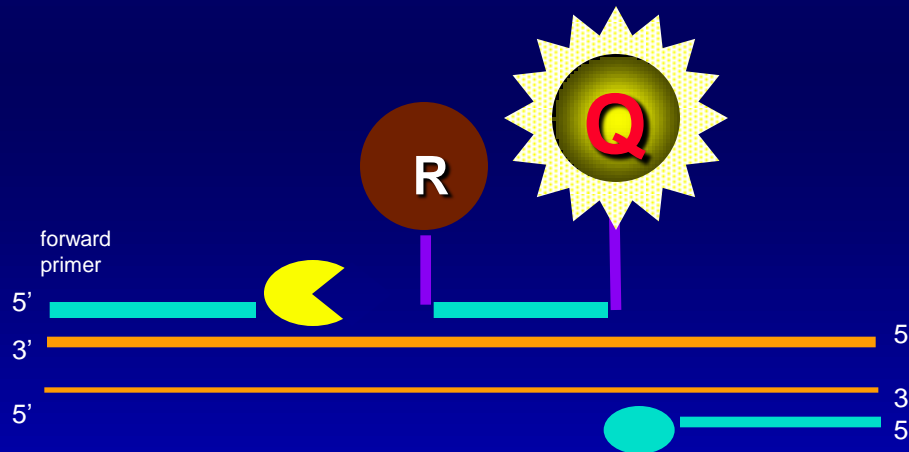
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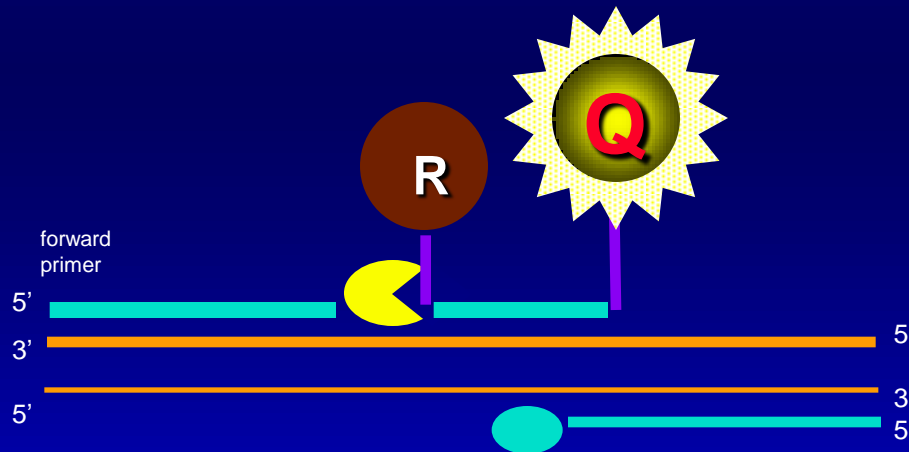
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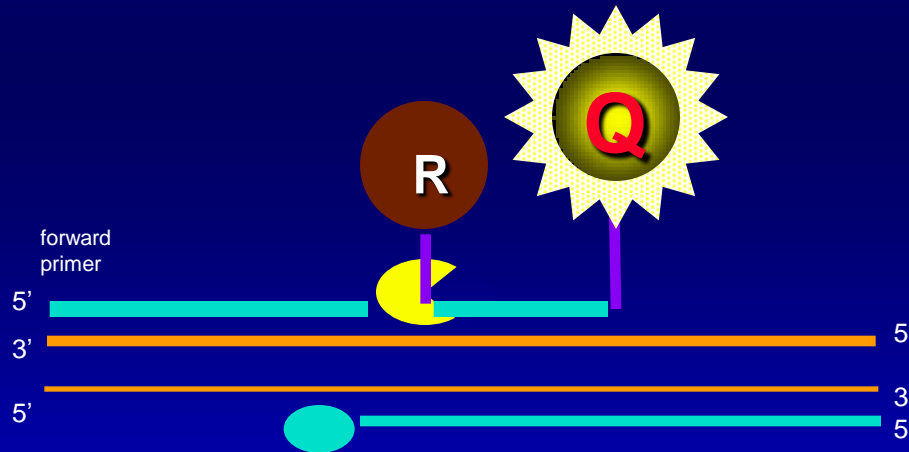
Denaturation → Annealing



• Polymerisation

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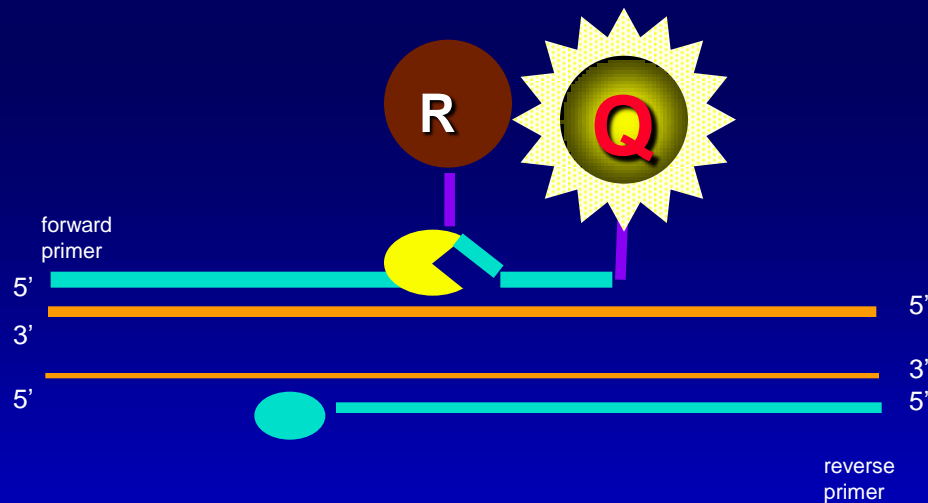


TaqMan PCR Chemistry

■ Strand displacement

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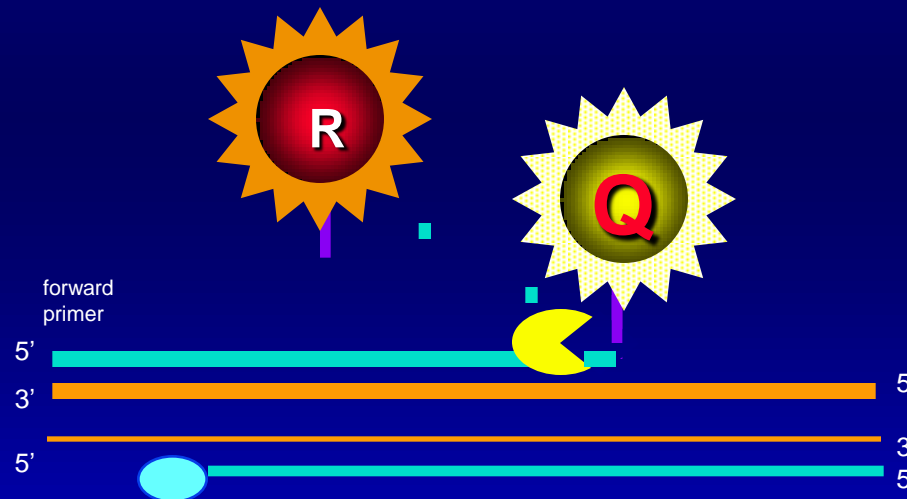


TaqMan PCR Chemistry

■ Cleavage

R = Reporter

Q = Quencher

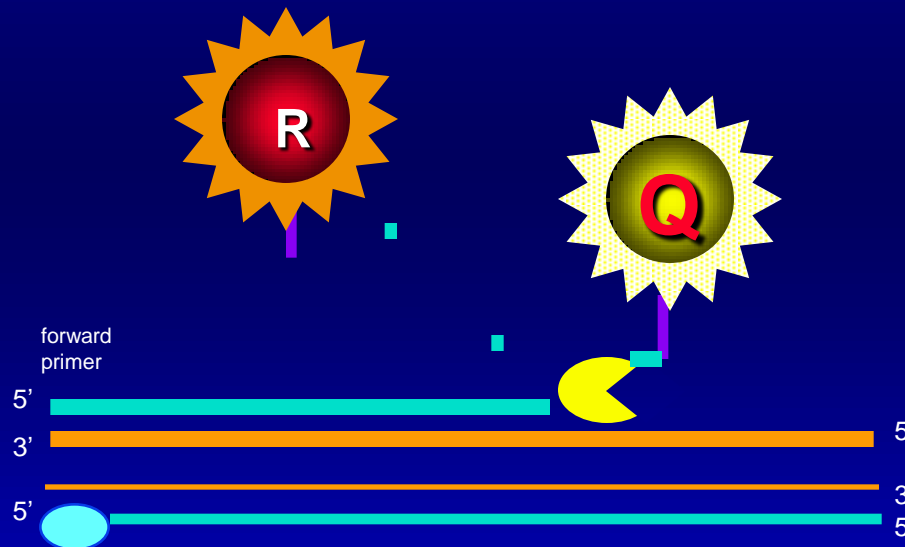


TaqMan PCR Chemistry

■ Cleavage

R = Reporter

Q = Quencher

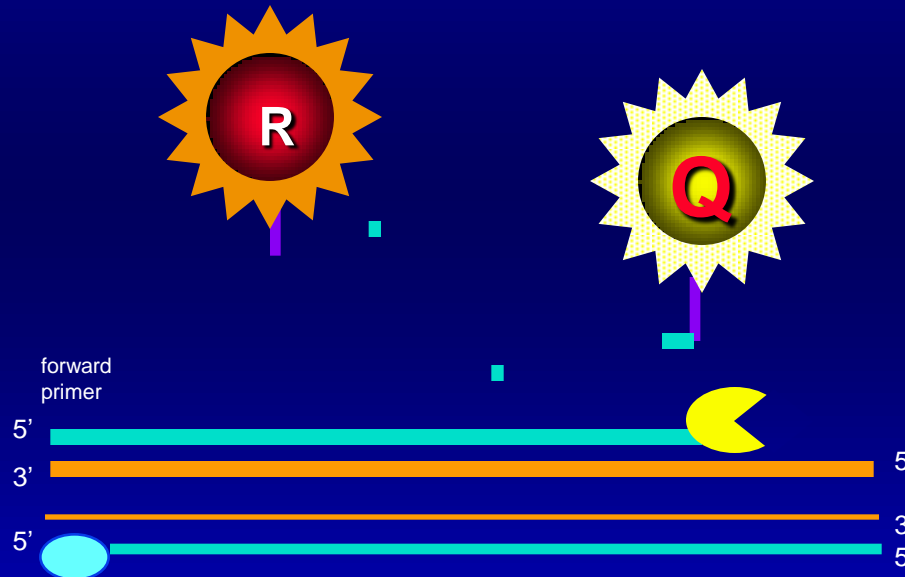


TaqMan PCR Chemistry

■ Cleavage

R = Reporter

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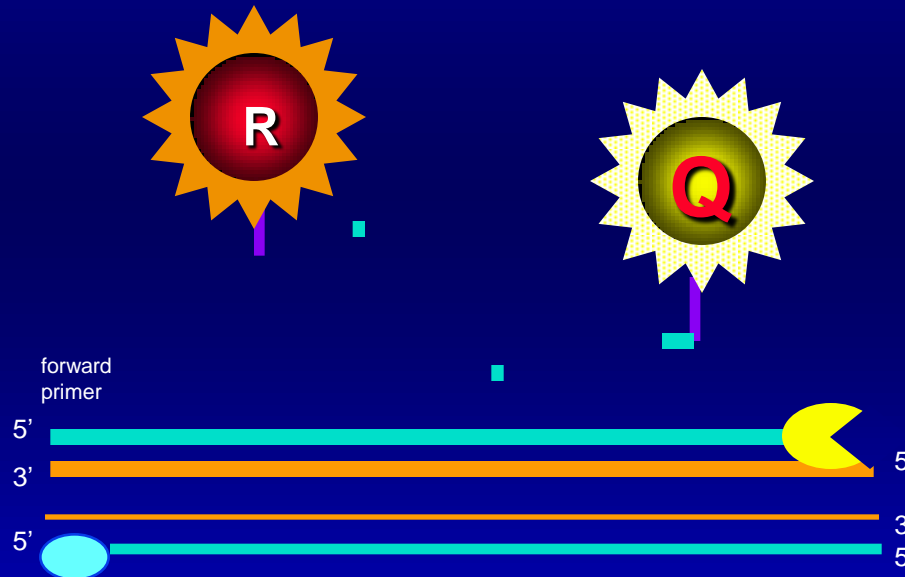


TaqMan PCR Chemistry

• Polymerisation completed

R = Reporter

Q = Quencher



TaqMan PCR Chemistry

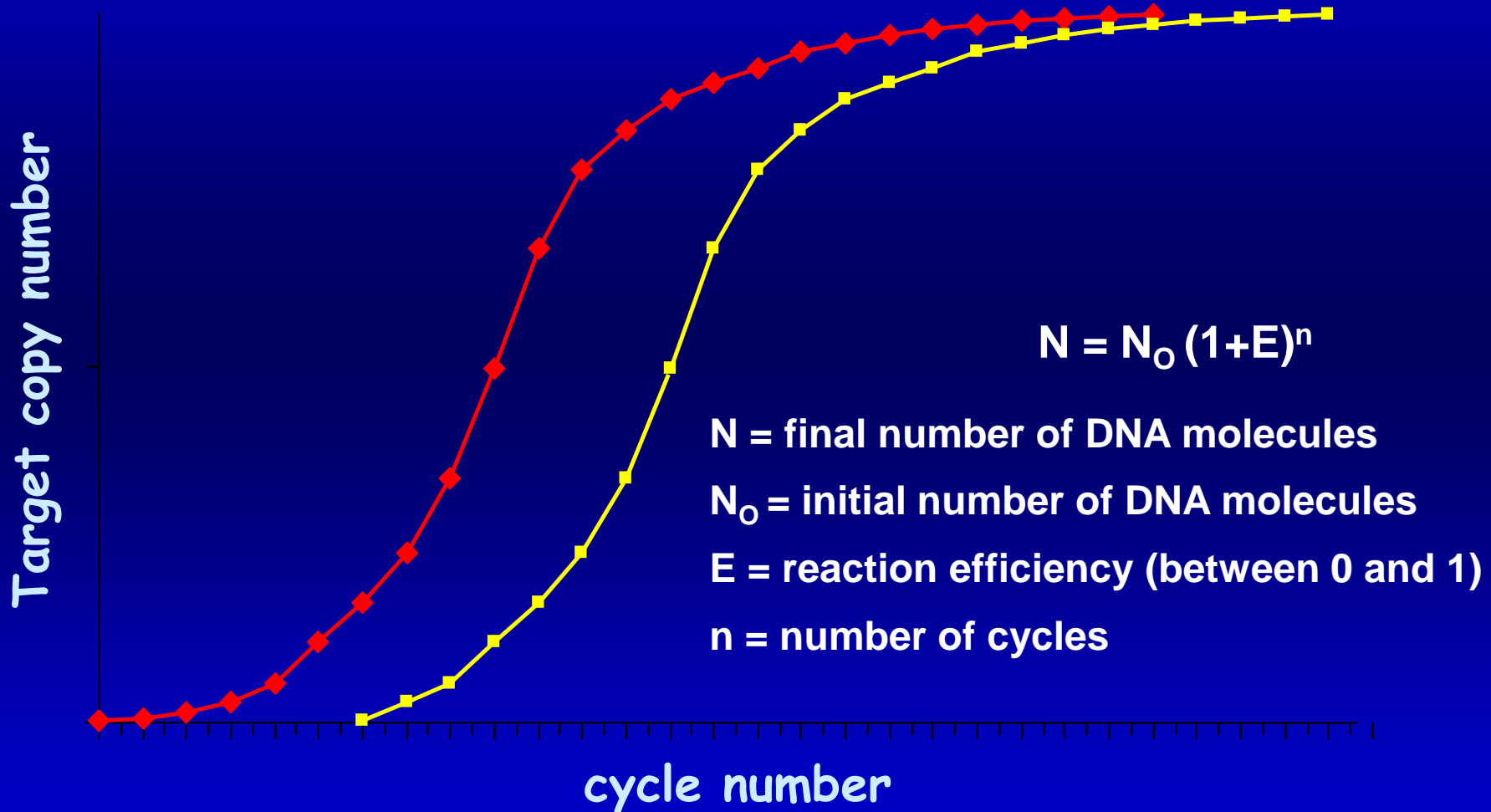
• Polymerisation completed

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PCR Amplification Curve



The Threshold Cycle, C_T

Correlates with the starting copy number

- ◆ If you have twice the template, you get to C_T one cycle earlier
- ◆ If you have half the template, you reach C_T one cycle later

