

# ECOTOXICOLOGIA

## AULA PRÁTICA 3

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The presence of a DNA double helix structure is a characteristic feature of all living organisms. The DNA molecule is composed of two antiparallel strands of deoxyribose sugar-phosphate backbone, with nitrogenous bases attached to the sugar. The bases are paired in the center of the helix, forming the rungs of the ladder. The sequence of bases along a strand encodes the genetic information. The DNA molecule is packaged into chromosomes, which are visible under a light microscope. The DNA molecule is the primary source of genetic information for all living organisms.

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Within cells, DNA is organized into very specific structures. These structures are called chromosomes. Chromosomes are composed of DNA molecules that are tightly packed together. The DNA molecule is the primary source of genetic information for all living organisms.

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## PLANEAMENTO DAS AULAS

AULA 1 (02.03) – INÍCIO DOS TESTES DE ECOTOXICOLOGIA

AULA 2 (09.03) – EFEITOS DO BEZAFIBRATO NA GERMINAÇÃO DOS ORGANISMOS TESTE  
(TAXAS DE INIBIÇÃO E CONSTANTES DE INIBIÇÃO IC50)

AULA 3 (16.03) – MARCADORES BIOFÍSICOS DE TOXICIDADE I

AULA 4 (23.03) – MARCADORES BIOFÍSICOS DE TOXICIDADE II

AULA 5 (06.04) – ANÁLISE ESTATÍSTICA MULTIVARIADA E ÍNDICES FOTOQUÍMICOS (TEÓRICO-PRÁTICA)

AULA 5 (13.04) - MARCADORES BIOQUÍMICOS DE TOXICIDADE I – PIGMENTOS VEGETAIS

AULA 6 (20.04) – MARCADORES BIOQUÍMICOS DE TOXICIDADE II – PIGMENTOS VEGETAIS II

AULA 7 (27.04) - MARCADORES BIOQUÍMICOS DE TOXICIDADE III – DANO MEMBRANAR

AULA 8 (04.05) – MARCADORES BIOQUÍMICOS DE TOXICIDADE IV

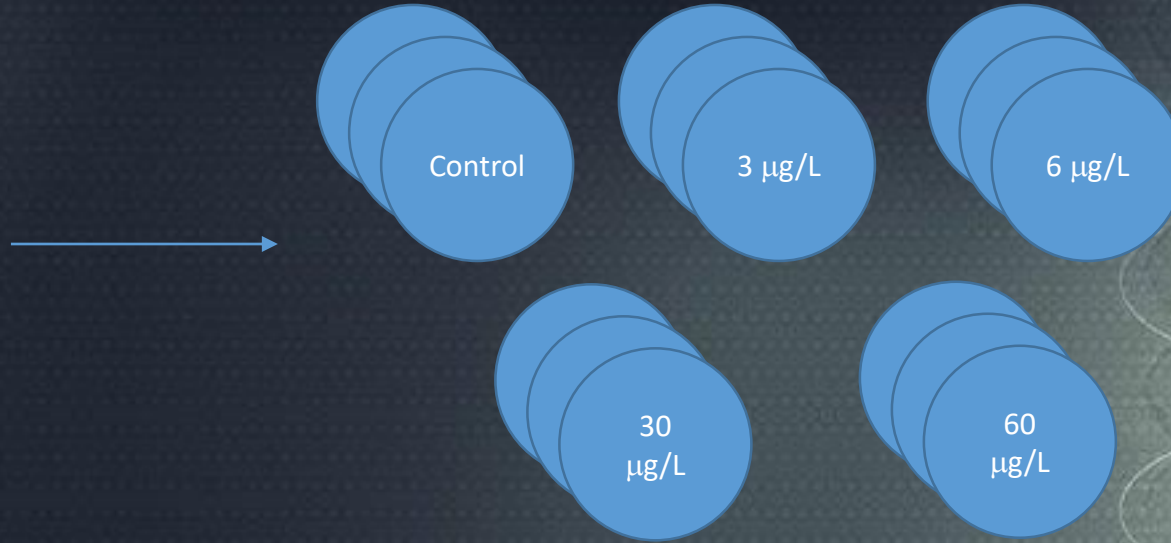
AULA 9 (11.05) - TÉCNICAS DE EXTRAÇÃO E ANÁLISE DE METAIS PESADOS

AULA 10 (18.05) - NANOTOXICOLOGIA

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DELINEAMENTO EXPERIMENTAL



Chemically, DNA consists of two complementary strands of opposite polarity. The strands are composed of sugar and phosphate groups. The two strands are held together and are therefore antiparallel. Attached to each sugar is one of four types of nitrogenous bases, and the sequence of these has been used to describe the genetic information. This information is used to synthesize the proteins that control the structure and function of the organism.

When cells divide, DNA is replicated. This process is called DNA replication. In eukaryotic organisms, DNA is packaged into chromosomes. The DNA is then used to synthesize the proteins that control the structure and function of the organism.

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DEVELOPMENT AND VALIDATION OF BIO-OPTICAL ECOTOXICOLOGICAL TESTS IN MARINE

PHOTOTROPHS – PROJECT OPTOX

MARINE PHOTOTROPH CONTAMINANT EXPOSURE

BIO-OPTICS

FLUOROMETRY

LASER

SPECTRORADIOMETRY

ECOTOXICOLOGY

LC

EC

BIOMARKERS

METABOLOMICS

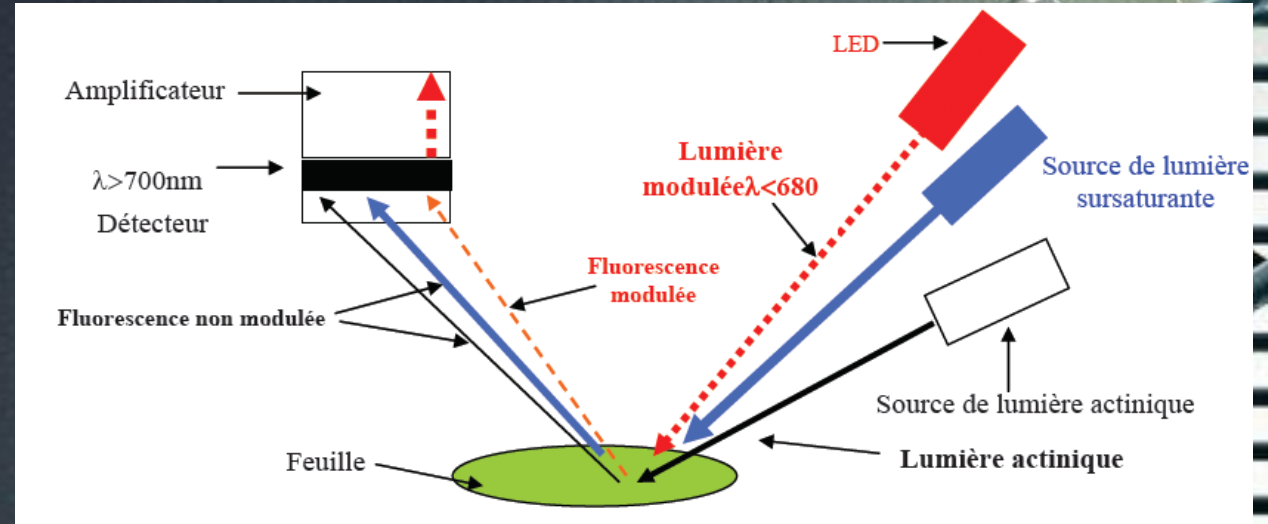
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ARTIFICIAL INTELLIGENCE

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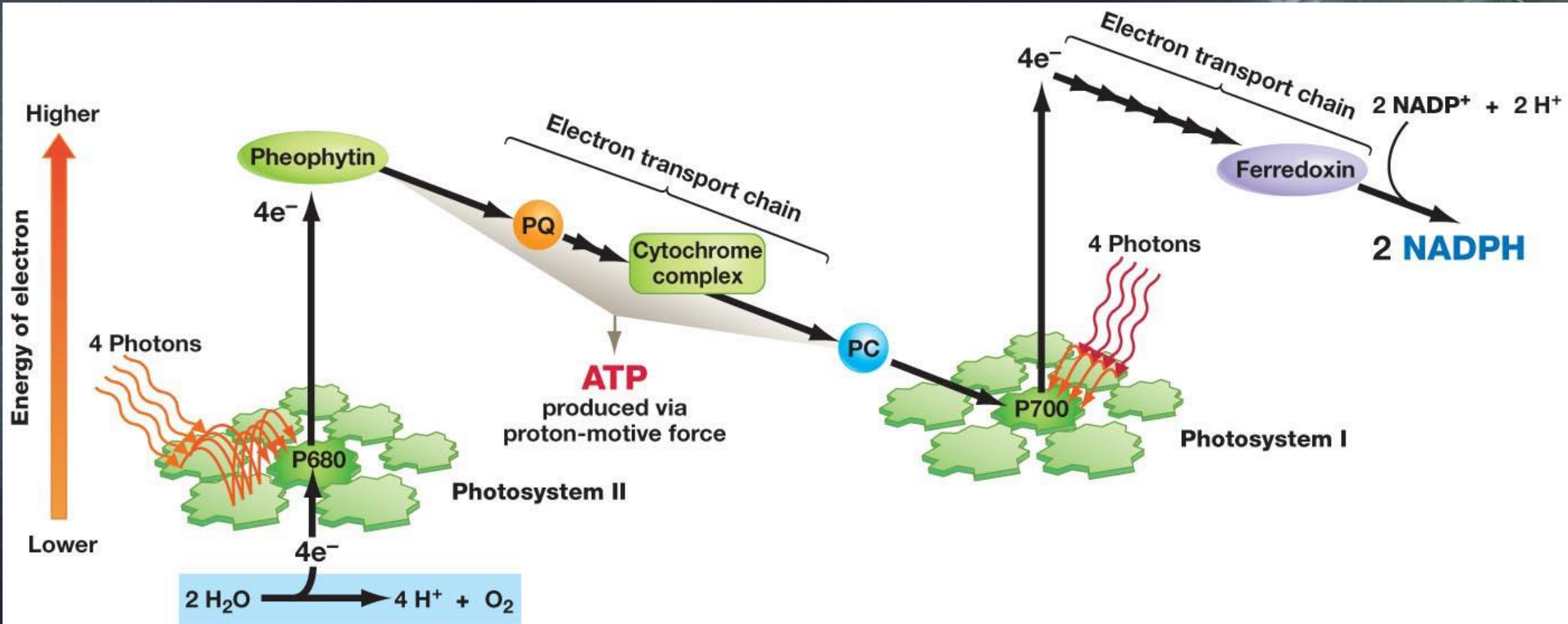
PULSE AMPLITUDE MODULATED (PAM) FLUOROMETRY



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Chemically, DNA consists of two complementary strands of simple sugar-phosphate backbones, with nitrogenous bases of sugars and phosphate groups. The two strands are held together and are therefore antiparallel. The bases of one strand are held together by hydrogen bonds with the bases of the other strand. The sequence of these base pairs is the genetic code that encodes information. This information is used to synthesize proteins and other molecules. The process of copying the genetic code is called DNA replication. The process of copying the genetic code is called DNA replication. The process of copying the genetic code is called DNA replication.

PULSE AMPLITUDE MODULATED (PAM) FLUOROMETRY



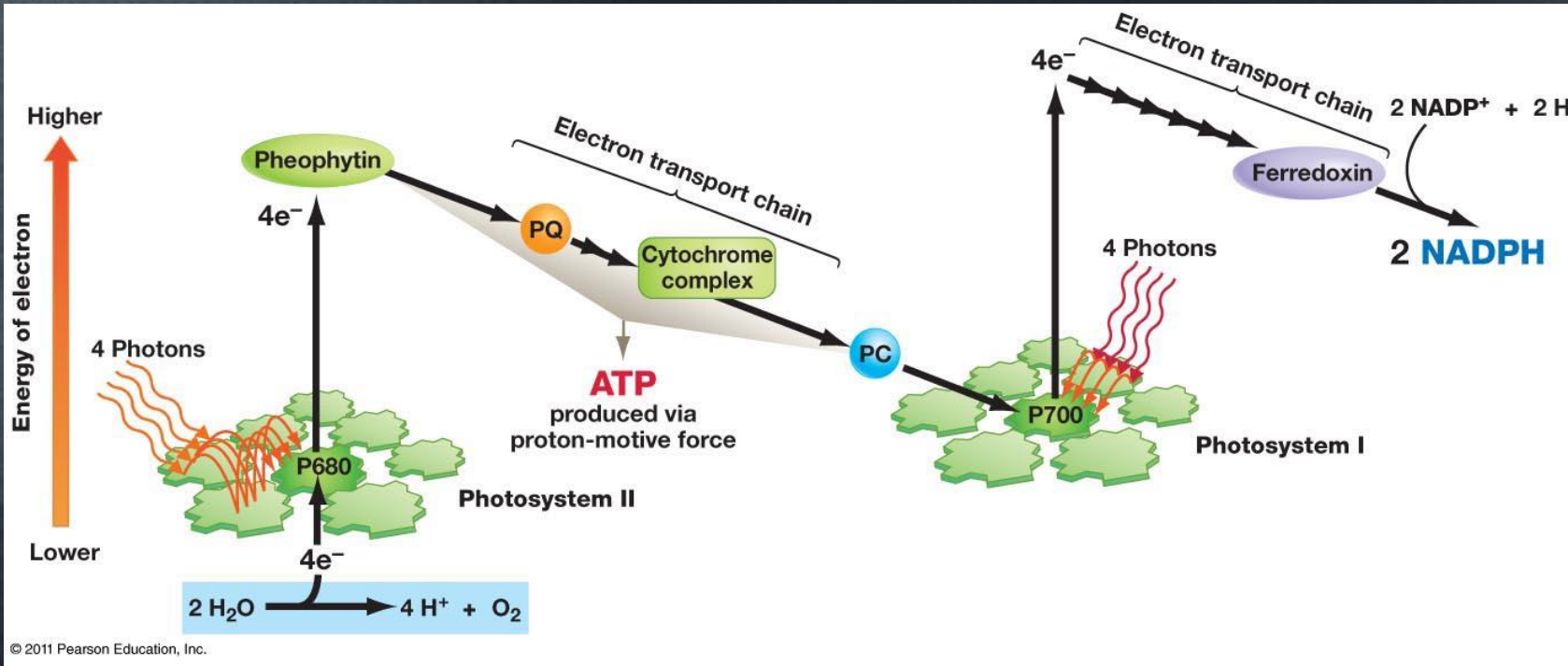
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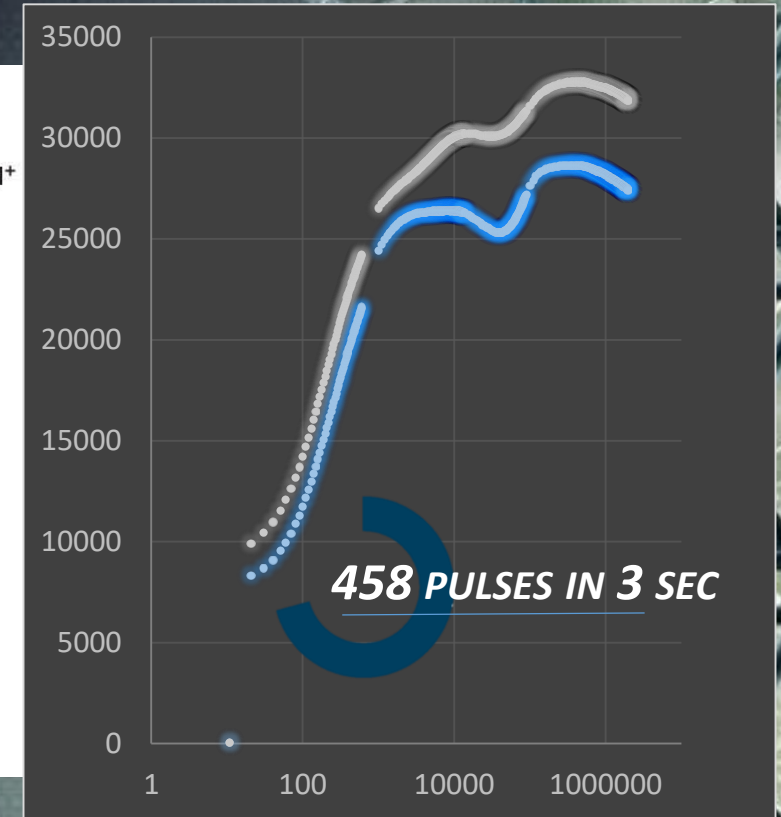




PULSE AMPLITUDE MODULATED (PAM) FLUOROMETRY



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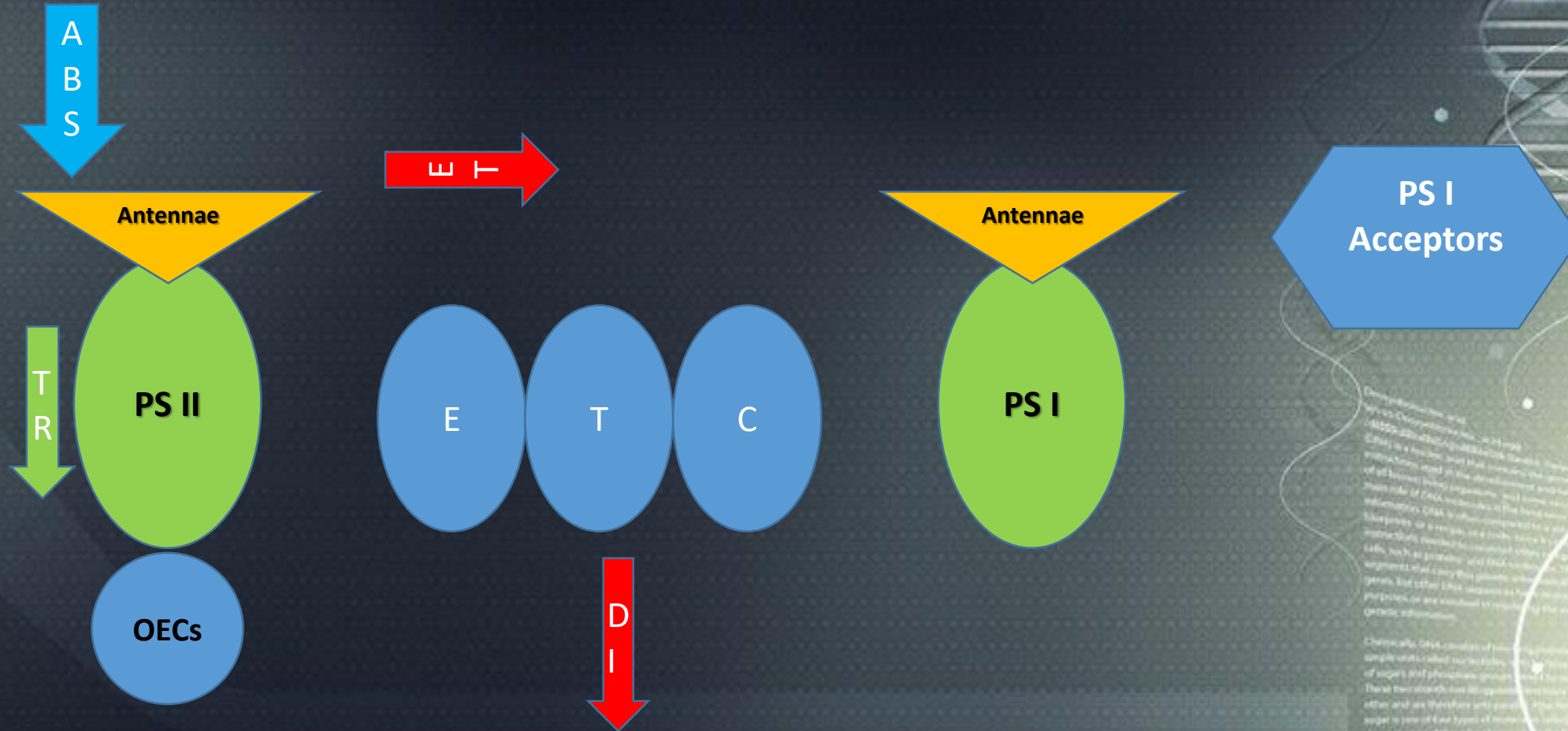


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the sequence of these base pairs is the sequence that encodes information. This information is used to synthesize proteins. The process of copying matches of DNA into the mRNA and then into a protein is called transcription.

Within cells, DNA is organized into very condensed structures called chromosomes. These chromosomes are duplicated before cells divide. In a process called meiosis, eukaryotic organisms produce gametes (sperm and egg) and produce offspring that inherit half the nuclear and some of their mitochondrial DNA from each parent.

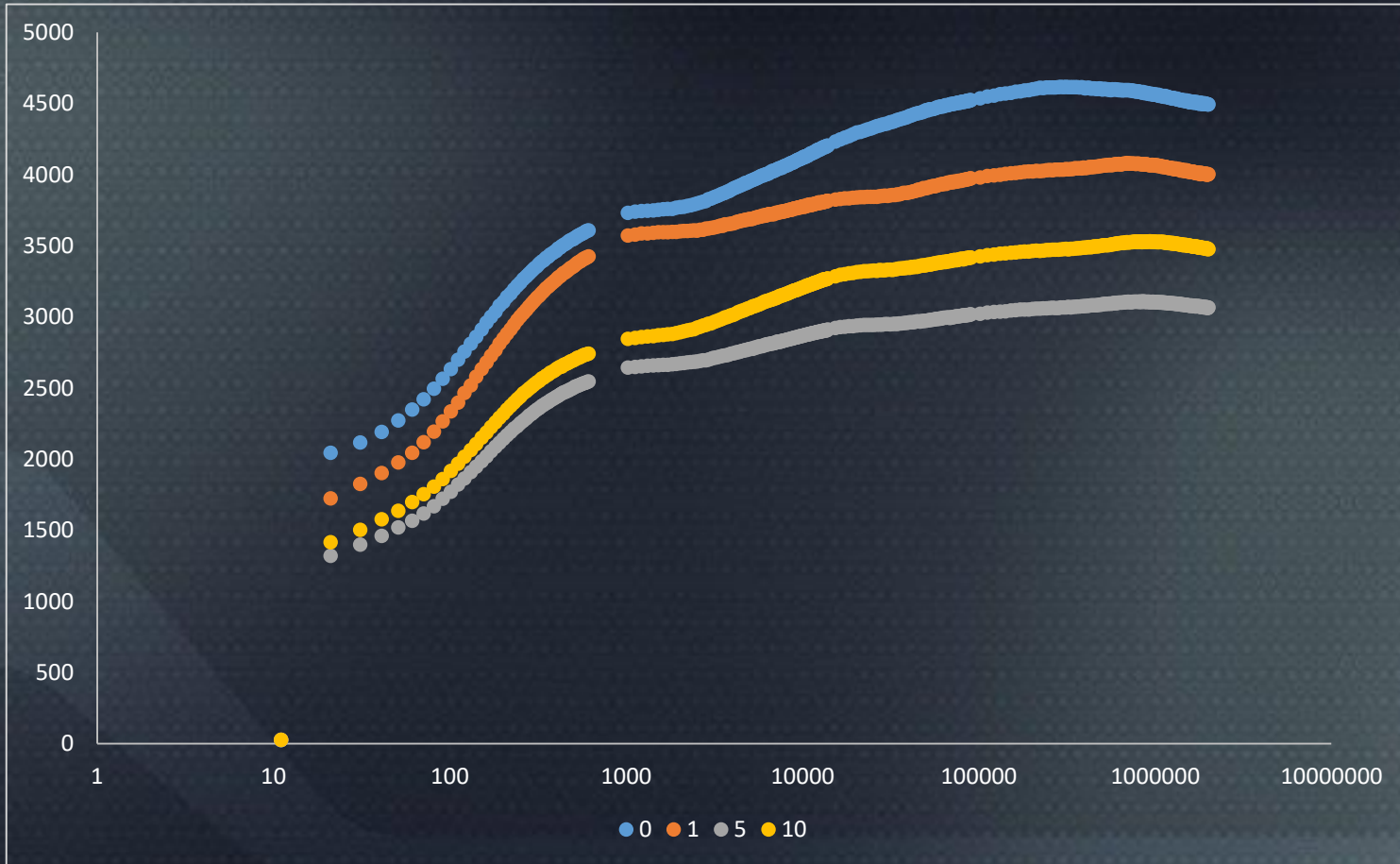
PULSE AMPLITUDE MODULATED (PAM) FLUOROMETRY



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# PULSE AMPLITUDE MODULATED (PAM) FLUOROMETRY



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Chemically, DNA consists of two complementary strands of opposite polarity. The strands are held together by hydrogen bonds between the nitrogenous bases. The bases are adenine, thymine, guanine, and cytosine. Adenine pairs with thymine, and guanine pairs with cytosine. The sequence of these bases in the DNA molecule encodes the genetic information. The information is passed on to the next generation through the process of DNA replication. The process of DNA replication involves the synthesis of a new DNA molecule using the original DNA molecule as a template. The process of DNA replication is a complex process that involves many enzymes and proteins. The process of DNA replication is essential for the growth and development of all living organisms.

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# Fundação para a Ciência e a Tecnologia

**Hg Planktarctic**

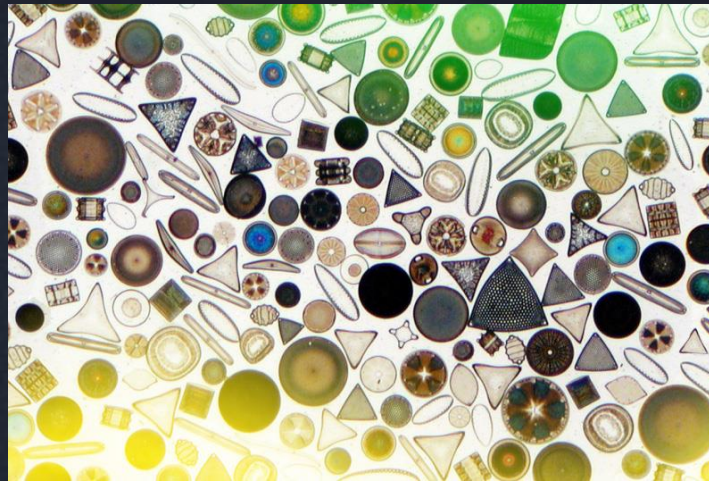
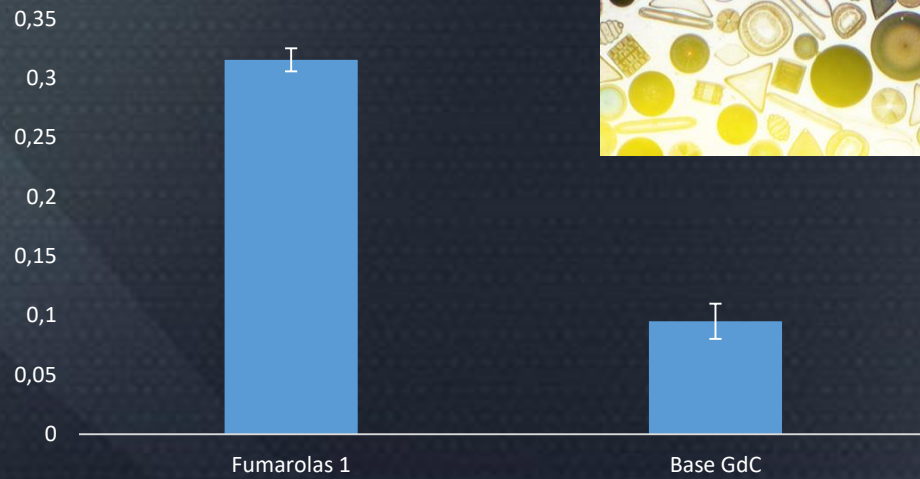


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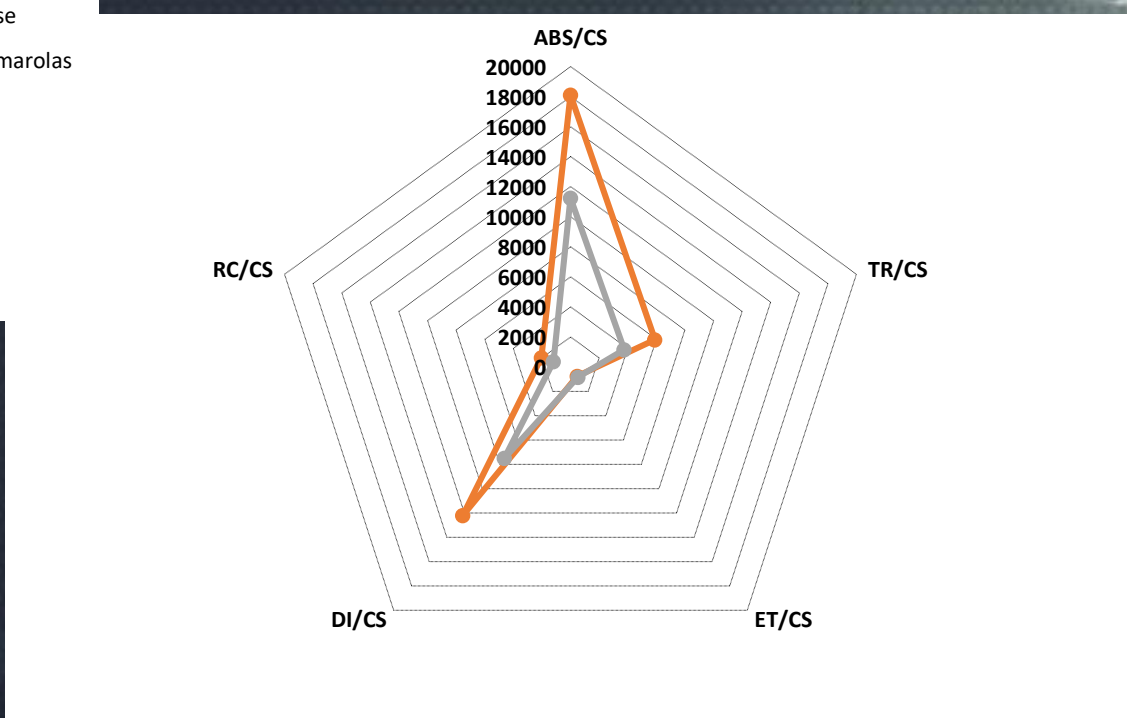
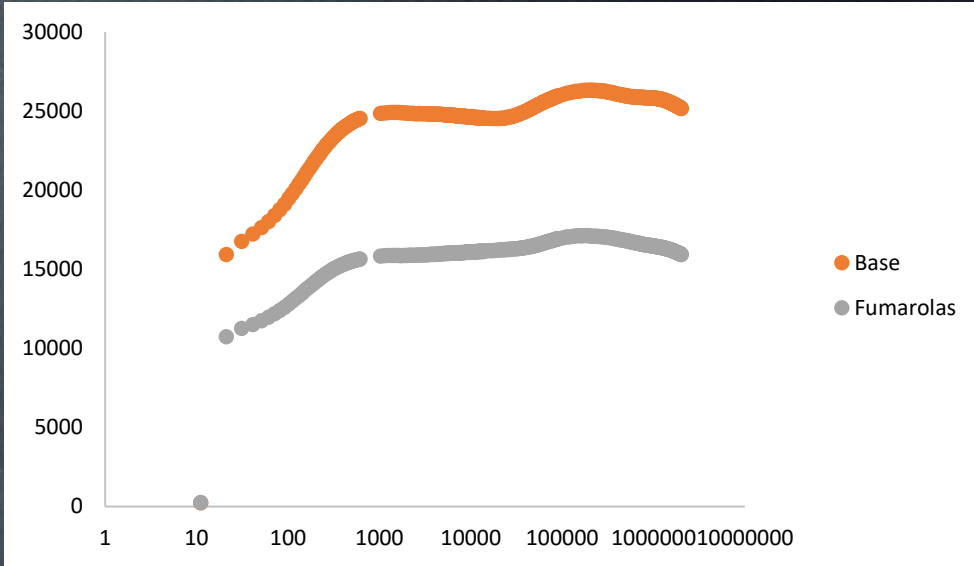
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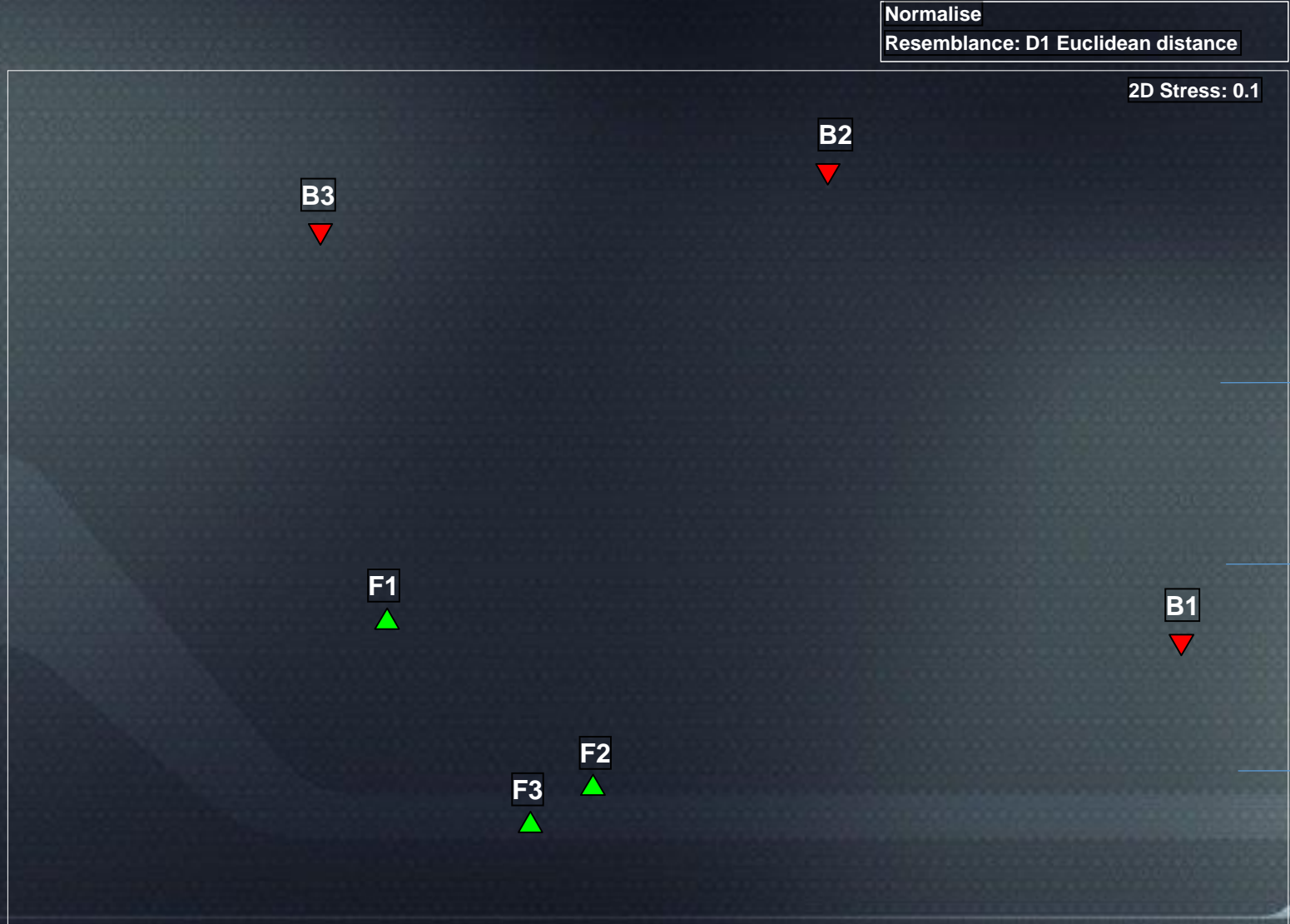


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Using the appropriate primer pairs, the PCR products were amplified. The PCR products were then subjected to gel electrophoresis. The DNA was stained with ethidium bromide and visualized under UV light. The results of the PCR analysis are shown in Figure 1. The results show that the PCR products were amplified as expected. The results also show that the PCR products were of the expected size. The results of the PCR analysis are shown in Figure 1. The results show that the PCR products were amplified as expected. The results also show that the PCR products were of the expected size.



PROJECT HG-PLANKTARTIC



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