

Chemistry Department



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2008 – BSc Applied Chem., FCT

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2010 – PhD student in Bioengineering Systems at MIT|Portugal Program.

PROTEIN SCAFFOLDS FOR BIOAPPLICATIONS

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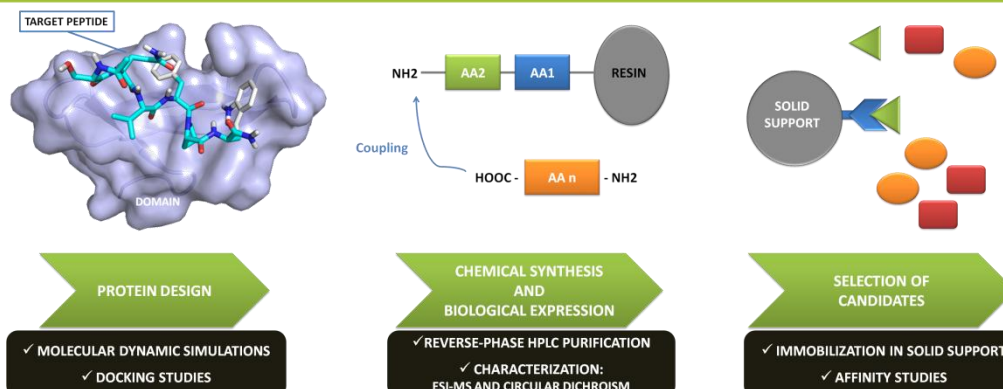
INSTITUTO DE TECNOLOGIA QUÍMICA E BIOLÓGICA /UNL
Knowledge Creation

Objectives

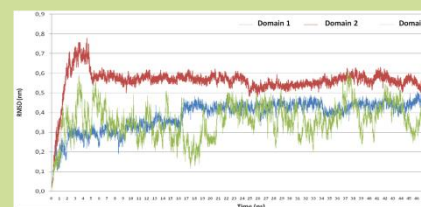
The increased interest on affinity reagents for the separation and detection of biologics, lead to the development of alternative engineered scaffolds able to complement and dispute the well-established immunoglobulin based domains.

This project aims to develop protein based structures for biotechnological applications. These structures are based on protein domains well characterized in the literature. Different biomolecules with biomedical relevance, such as antibodies will be a target for these novel structures.

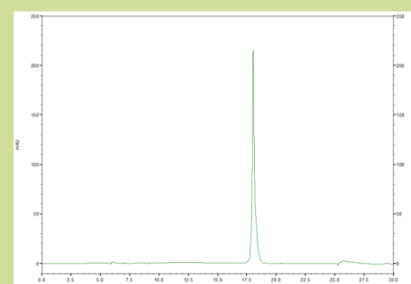
Methodology



MOLECULAR DYNAMIC SIMULATIONS – STABILITY STUDIES



PROTEIN PURIFICATION IN HPLC



Expected Results

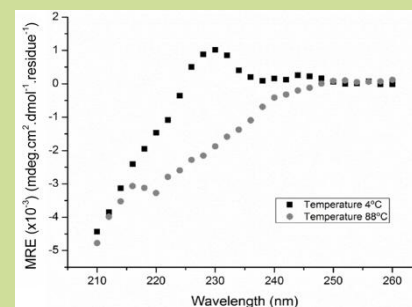
The *in silico* studies have given good hints about the stability of these novel structures. As a control, a native structure was tested, the results *in silico* demonstrated high stability, this structure was chemically synthesized and characterized and the results are well in accordance with the experimental literature.

The immobilization in solid support will allow to demonstrate the diversity of applications of these novel structures.

APPLICATIONS

- ❖ Bioseparation
- ❖ Drug Delivery
- ❖ Biosensing

CIRCULAR DICHROISM STUDIES



Funding:

FCT Fundação para a Ciência e a Tecnologia
MINISTÉRIO DA EDUCAÇÃO E CIÊNCIA

We thank the financial support from Fundação para a Ciência e a Tecnologia, Portugal, through contracts PTDC/EBB-BIO/102163/2008, PTDC/EBB-BIO/098961/2008, PTDC/EBB-BIO/118317/2010 and SFRH/BD/72664/2010. for A.M.G.C.D., the Associate Laboratory REQUIMTE (PEst-C/EQB/LA0006/2011), Pest-OE/EQB/LA0004/2011, the National Network of Mass Spectrometry REDE/1504/REM/2005, and Santander Totta Bank – UNL for the Scientific Award 2009/2010.