VARIAÇÕES ANUAIS NA COMPOSIÇÃO DOS OLEOS ESSENCIAIS DA
Cryptomeria japonica.

MENDES, J.

Departamento de Produtos Naturais, INOVA, Rua Padre Soranno, 54,
2600 Ponta Delgada, Portugal.

A composição dos oleos essenciais da planta Cryptomeria japonica é analisada.
Vários terpenos foram encontrados e a sua estrutura determinada. As variações na composição do
oleo de varias plantas coletadas ao longo do ano são determinadas.

BIOFILM FORMATION BY Pseudomonas fluorescens ON METALLIC
SURFACES

OLIVEIRA, R.ª, VIEIRA, M.J., MELO, L., PINHEIRO, M.M.

Engenharia Biológica, Universidade do Minho, CQPA/INIC, 4700 Braga, Portugal.

The applications of biofilms, including microbial, plant and cell biofilm systems, have been
increasing in biotechnology. The immobilized cells can be used to produce a given compound or to
degradate undesirable ones.

However, there are situations where biofilms are unwanted, being generally referred to as biofouling.
This phenomenon is specially relevant when it occurs on heat transfer surfaces, mainly in cooling water
systems, giving rise to important economical losses.

Whatever is the case, it is necessary to have a better insight on the phenomenon of biofilm formation
in order to make possible a certain control of the process.

The aim of this work was to study the formation of biofilms by Pseudomonas fluorescens, a natural
water bacterium, on metallic surfaces (copper, aluminium and brass) in a flow system. The results are
discussed in terms of the mechanisms (transport and/or adhesion) that may control the rate of the
deposition process. Adhesion data are compared with the predictions given by thermodynamic models.
The effects of metallic ions (Cu²⁺, Zn²⁺ and A²⁺) on the bacterial metabolism were studied in order to
explain the discrepancies between experimental data and thermodynamic predictions.