

# NANOCOMPOSITE TI-ALLOYS FOR BIOMEDICAL APPLICATIONS, CHARACTERIZATION, CORROSION BEHAVIOR AND BIOCOMPATIBILITY

Laboratory of Inorganic Chemistry includes activities, at the undergraduate level, in the subject of Inorganic Chemistry and General Chemistry offering courses in Materials Chemistry, Bioorganic Chemistry, Physical Methods in Inorganic Chemistry, Nanochemistry, Radiochemistry and Nuclear Chemistry. At the postgraduate level supports the Postgraduate Program "SYNTHETIC CHEMISTRY, BIOCHEMISTRY AND APPLICATIONS" and train research postgraduate students providing MSc and PhD.

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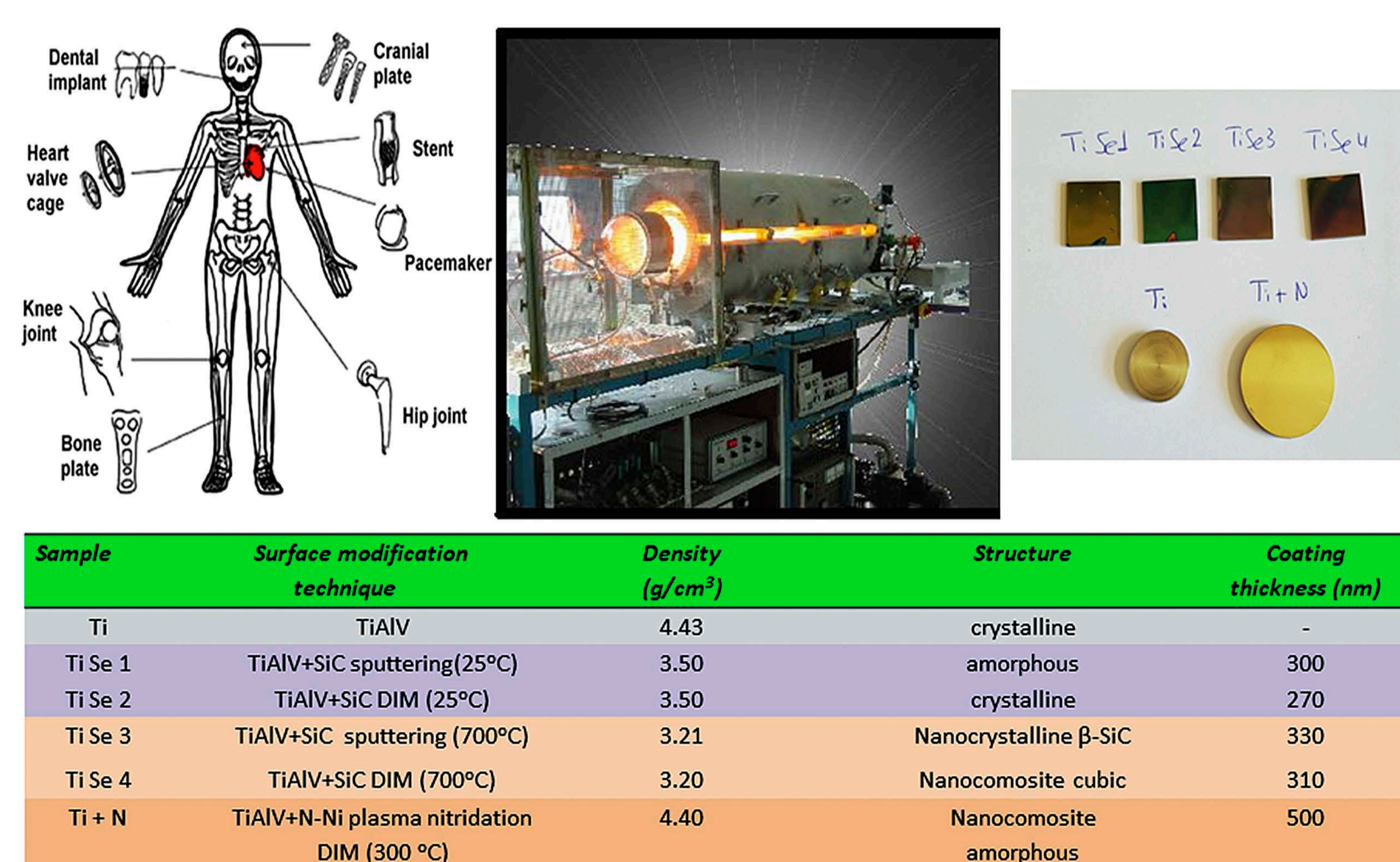


Figure 1: a) biomedical applications of Ti-alloys, b) surface modification by plasma nitridation, c) the investigated samples and d) table of the samples with their characteristics.

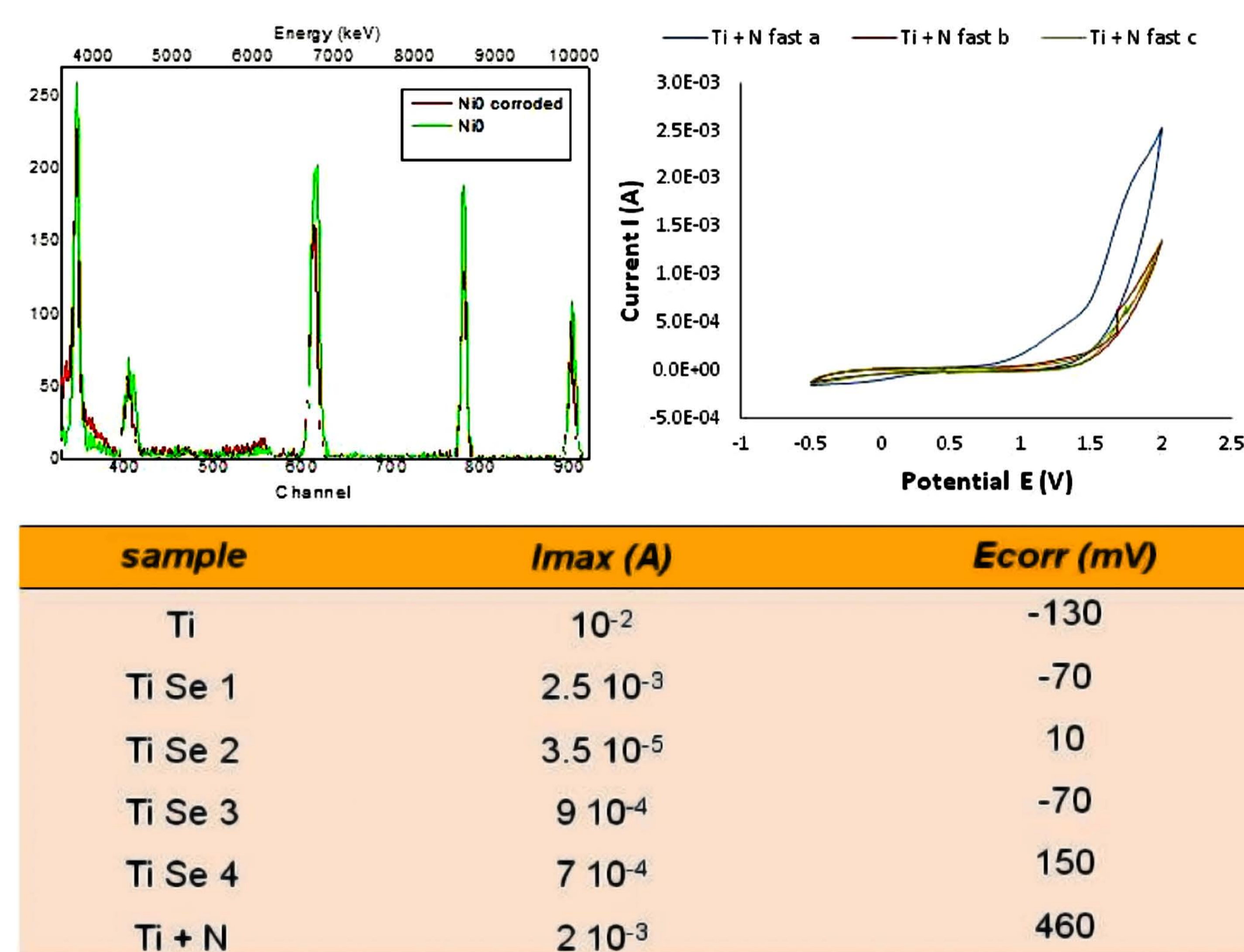


Figure 2: a) Determination of the nitrogen in nanocomposite Ti+N sample using nuclear reaction analysis, b) cyclic voltammery curves of the Ti+N sample and c) table with the corrosion characteristics of the samples.

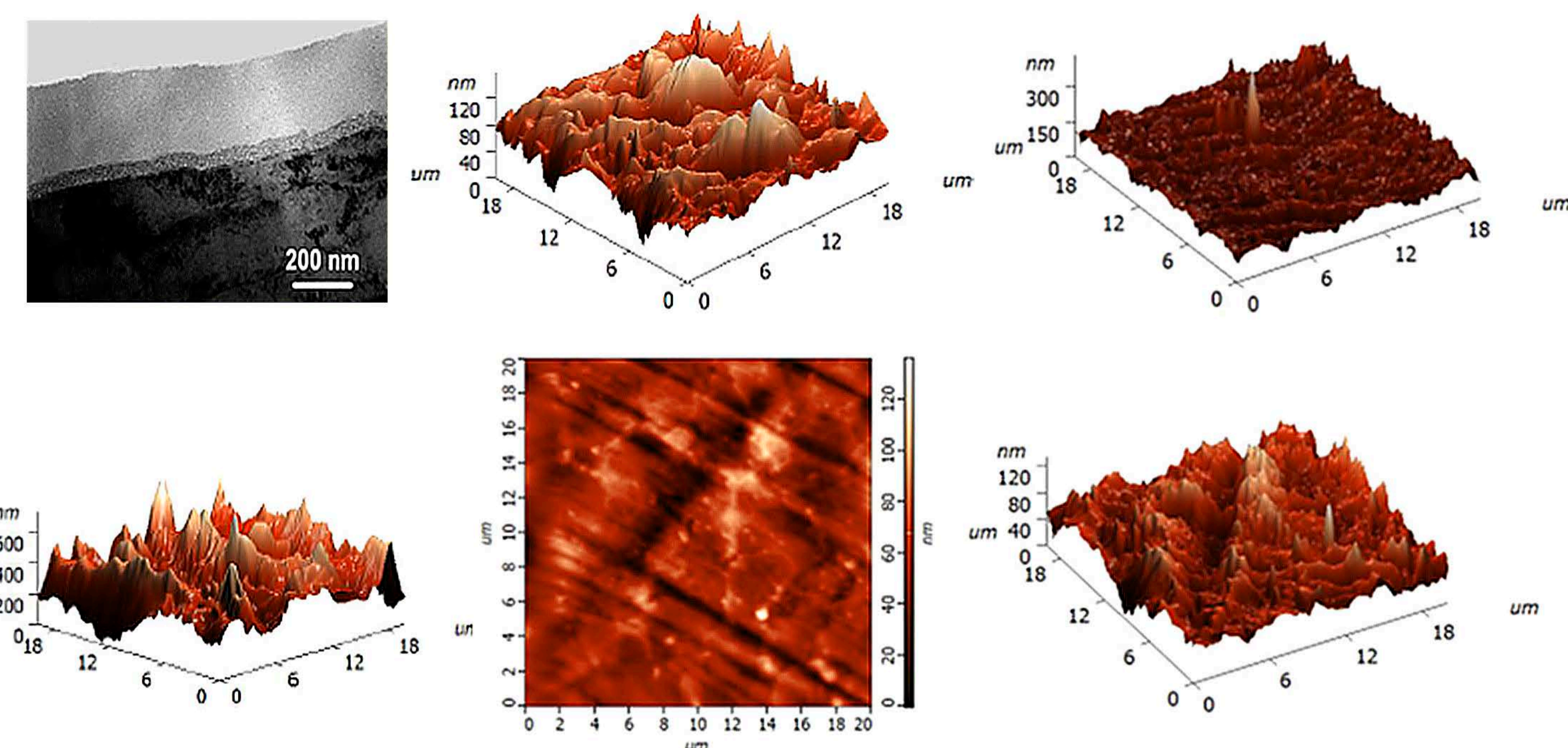


Figure 3: a) TEM image of the Ti Se4, b-c) AFM images of the TAV before and after corrosion, AFM images of the Ti Se4 before (d) and after corrosion (e-f).

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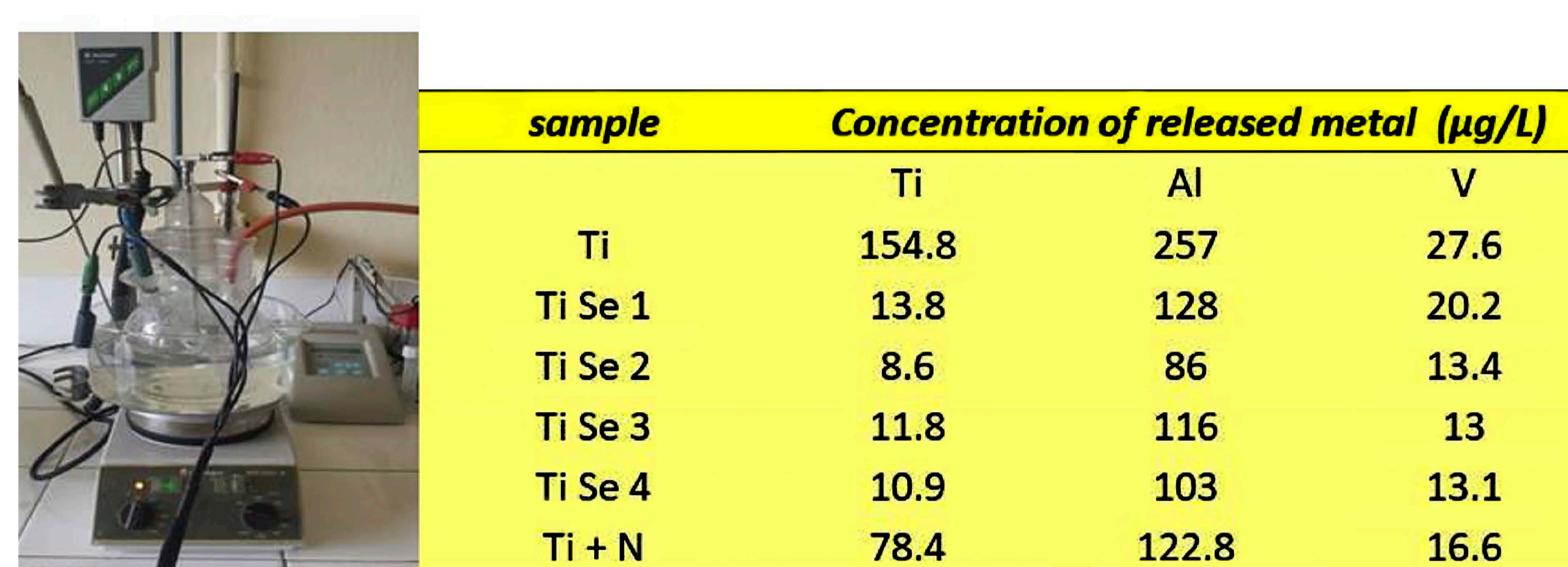


Figure 4: Concentration of released metal (µg/L) in corrosive solution (0.9% NaCl) after electrochemical investigation.

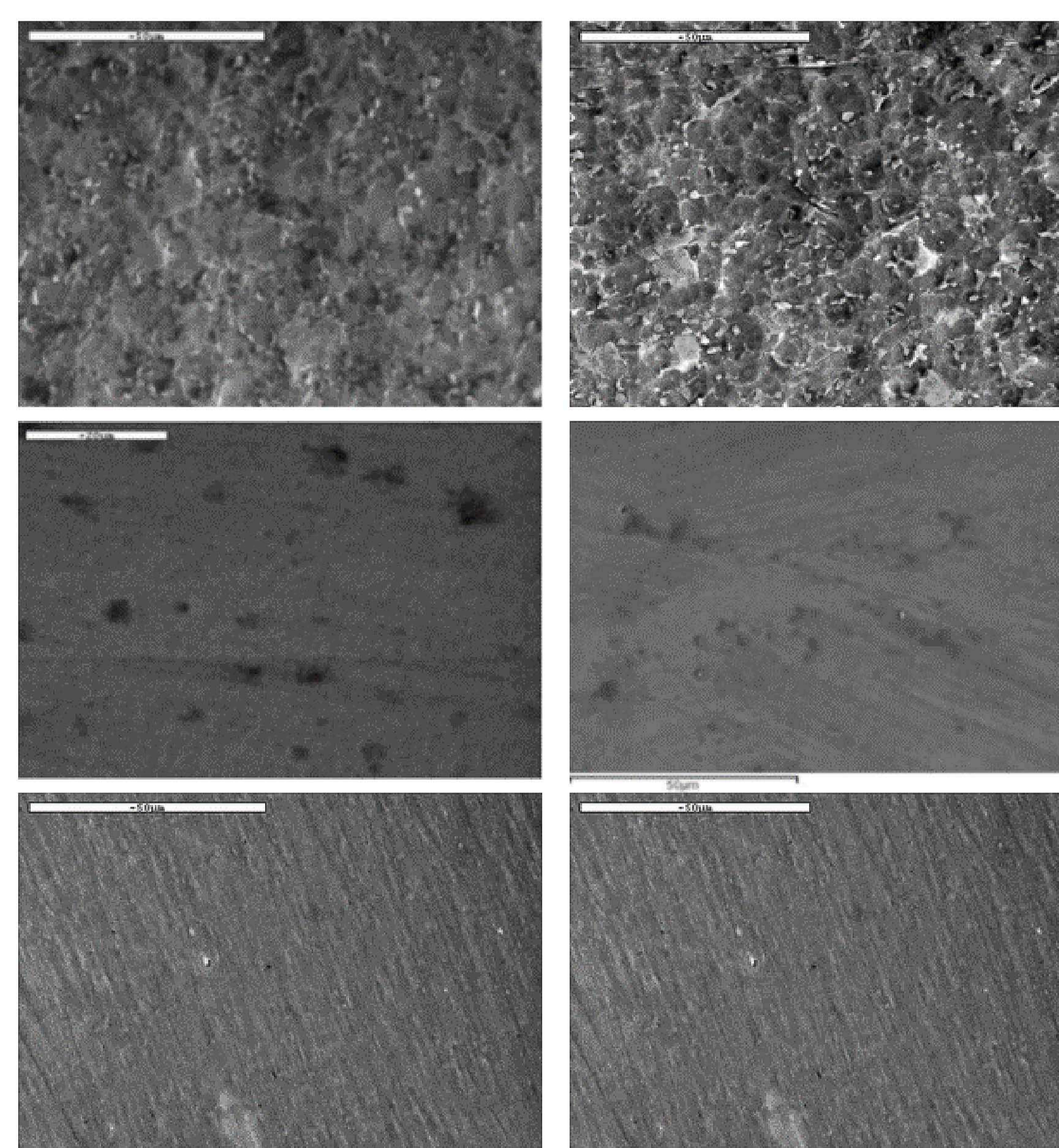


Figure 5: SEM images of non corroded and corroded samples respectively, TAV (a-b), Ti+N (c-d), Ti Se4 (e-f).

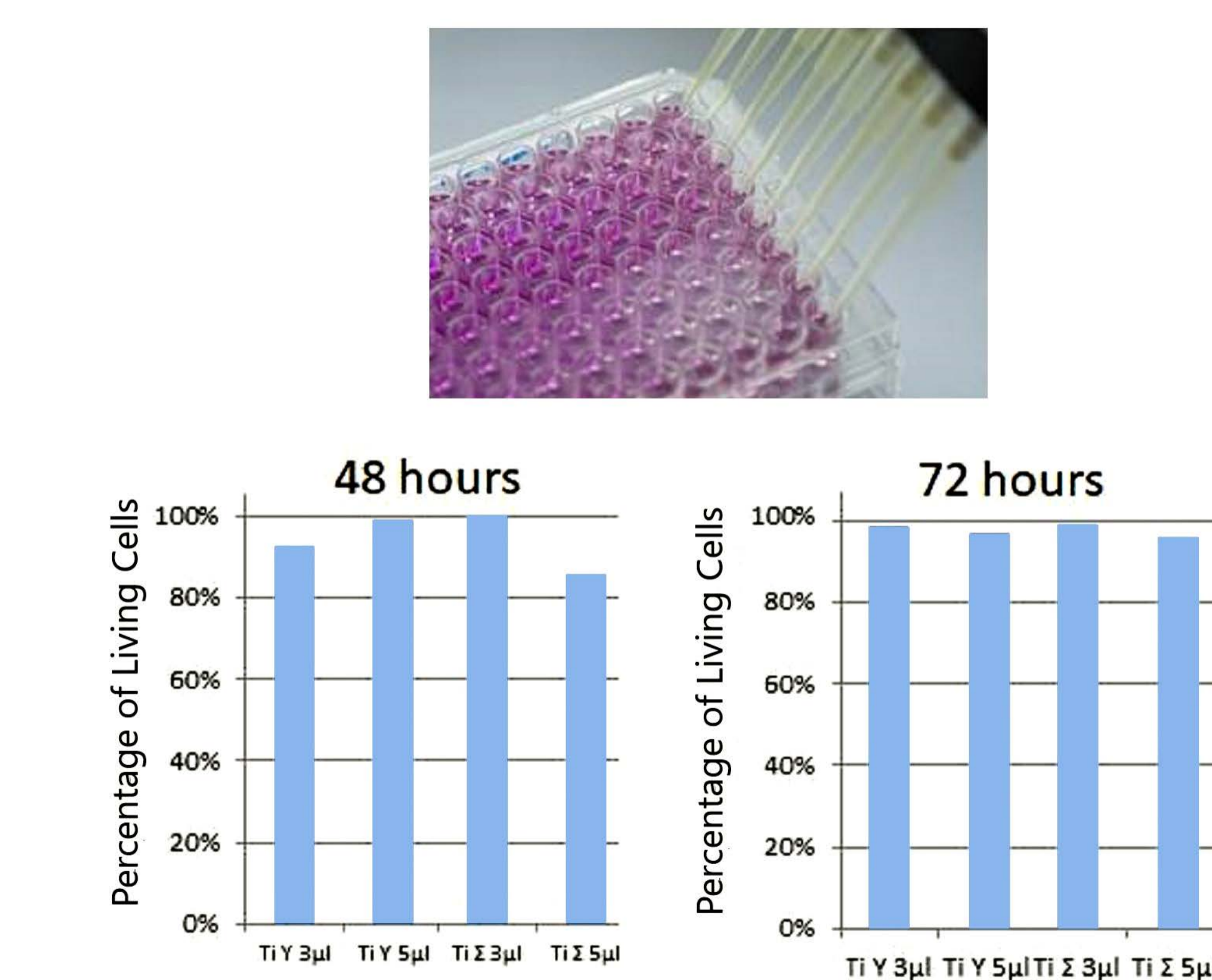


Figure 6: Cytotoxicity diagrams of TAV.