



Synthesis and phase transformations of beta metastable Ti-based alloys containing biocompatible Ta, Mo and Fe beta-stabilizer elements

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New beta-metastable Ti alloys containing Ta, Mo and Fe biocompatible elements were synthesized by arc melting and then quenched in water from the beta phase field. For each alloy, the beta-metastable phase decomposition was characterized by electric resistivity measurements and differential scanning calorimetry upon heating from room temperature to the beta transus. The formation of omega and alpha nanophases was detected and observed and the different phase transitions behavior was discussed in connection with the beta-stabilizer content in each alloy