

Innovative conservative strategies applied in Herculaneum archaeological site (Naples, Italy): the case of Villa dei Papiri

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This work is focused on innovative conservative strategies applied on plasters taken from the Herculaneum archaeological site (Naples, Italy). The area represents one of the most important and best preserved memorials of ancient Roman life, including ruins and their associated villas. Nowadays many buildings of the area are affected commonly by alteration and decay phenomena threatening their stability and conservation. In this regard, the Villa dei Papiri is one of the most impressive examples of architecture in Herculaneum and existing before the volcanic eruption of 79 A.D. It was discovered almost by accident in April 1750 during the digging of a well. The stone materials constituting the building show decay phenomena. This research deals with the plasters from walls located outside the villa in order to study their different alteration forms, monitor the microclimatic parameters and then correlate them to the degradation patterns. Finally, several diagnostic tests were carried out to assess the inhibition of alteration products by using photoactive nanoparticles with bio-protective features

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