

BUSTA 1

- 1) Illustrare le proprietà e la reattività dei composti carbonilici
- 2) Principali Organi di Ateneo
- 3) Leggere e tradurre dalla Lingua Inglese il seguente paragrafo:

Because of the availability and renewability of biomass- derived chemicals, the development of useful synthetic organic procedures that employ eco-friendly and sustainable feedstocks represents a major challenge in current chemistry. For example, ethyl lactate (EL) has demonstrated great potential as a green solvent and building block for the preparation of value-added products.

- 4) Programmi di scrittura che Lei conosce e utilizza

F. to La Commissione

BUSTA 2

- 1) Illustrare le proprietà e la reattività di alcoli e fenoli
- 2) Illustrare le principali funzioni e le rappresentanze del Senato Accademico
- 3) Leggere e tradurre dalla Lingua Inglese il seguente paragrafo:

1,2-Diketones compose a class of structural motif with important applications in the synthesis of biologically active heterocycles and natural products. Additionally, 1,2-diketones have also been found to be present in molecules with antitumor activities. Furthermore, they have also been used as photochemical materials and ligands to stabilize various metal complexes. Because of their recognized importance, many synthetic methods were developed for their preparation in recent years.

- 4) Gestione fogli excel

F. to La Commissione

BUSTA 3

- 1) Concetto di pH: acidità e basicità
- 2) Compiti del direttore generale
- 3) Leggere e tradurre dalla Lingua Inglese il seguente paragrafo:

Antibodies, like other proteins, can be covalently modified in many ways to suit the purpose of a particular assay. Many immunological methods involve the use of labeled antibodies, and a variety of reagents have been created to allow labeling of antibodies. Enzymes, biotin, fluorophores and radioactive isotopes are all commonly used to provide a detection signal in biological assays. Covalently attaching such a label to an antibody combines the unique specificity of the antibody with a sensitive means for detection, thus creating an ideal probe molecule.

- 4) Familiarità con il pacchetto Office

F. to La Commissione

BUSTA 4

- 1) Gruppi funzionali in IR
- 2) Procedura per l'elezione del Rettore
- 3) Leggere e tradurre dalla Lingua Inglese il seguente paragrafo:

The development of fluorescent small-molecular probes is a vibrant research field. Because of their high sensitivity, ease of manipulation and their amenability for analyzing live cells with high resolution, fluorescence techniques have been extensively used for biosensing and bioimaging. Subsequently, many elegant fluorescent sensing mechanisms have been developed and a myriad of molecular probes have been constructed for the detection of ions, small-molecules, and biomacromolecules (such as genes, proteins and saccharides).

- 4) Programmi utilizzati per riportare i risultati in forma di istogramma.

F. to La Commissione

BUSTA 5

- 1) Principi di Risonanza Magnetica Nucleare
- 2) Composizione e funzione del Senato accademico
- 3) Leggere e tradurre dalla Lingua Inglese il seguente paragrafo:

Research in origins of life is an intrinsically multi-disciplinary field, aimed at finding answers to the formidably complex problem of understanding the emergence of life from the modern versions of Charles Darwin's celebrated "primordial soup". In the last few years, thanks to the increasing computational power and the development of sophisticated theoretical and numerical methods, several computational chemistry and physics groups have invested this field, providing new microscopic insights on fundamental prebiotic chemistry phenomena possibly occurring in the early Earth and outer space.

- 4) Programmi conosciuti per la rappresentazione di strutture e reazioni chimiche

F. to La Commissione

BUSTA 6

- 1) Composti carbonilici: classificazione, struttura e proprietà
- 2) Funzioni del Nucleo di Valutazione di Ateneo
- 3) Leggere e tradurre dalla Lingua Inglese il seguente paragrafo:

In the bottom-up molecular perspective indicated by those early results, research in the field of prebiotic chemistry and origins of life (PCOL) has focused on the main molecular entities universally found in current living forms, and on the understanding of how and why those specific entities have been selected by chemical and then biological evolution over the so-called prebiotic clutter: (i) proteins, (ii) nucleic acids, (iii) carbohydrates and (iv) lipids. In fact, given the overwhelming variety of chemically conceivable organic molecules, the fact of observing only a relative-small subset of them, often displaying a very specific chirality in biological systems, raised several questions.

- 4) Familiarità nell'utilizzo di programmi per la presentazione di risultati in conferenze e/o riunioni

F. to La Commissione