Special Issue

Imaging Techniques in Drug Discovery and Development

Message from the Guest Editors

The issue aims to broadly cover all related aspects of imaging techniques in drug discovery and development. With the development of photonics, imaging methods have been increasingly applicable in drug analysis. EMA proposes the concept of QbD introduced by ICH. In turn, FDA proposes a concept of PAT. Both favour the methods of drug analysis that ensure supervision of the final product and production processes which use non-destructive, rapid and accurate analytical techniques allowing for the identification of drug parameters in a two or three-dimensional space. The methods that allow for two-dimensional analysis of dosage forms include: optical imaging, including imaging in visible and infrared light (thermography) and vibration spectroscopy methods, including infrared spectroscopy and Raman spectroscopy. The analysis of drugs in a three-dimensional space, enabling visualization of the internal structure of an object, is possible by using tomographic methods, including computed microtomography (CT), magnetic resonance imaging (MRI), some types of mass spectrometry, optical coherence tomography (OCT) and terahertz imaging.

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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