



picoEmerald - A Reference List

Imaging and Spectroscopy with a
Tunable Two-Color-Source

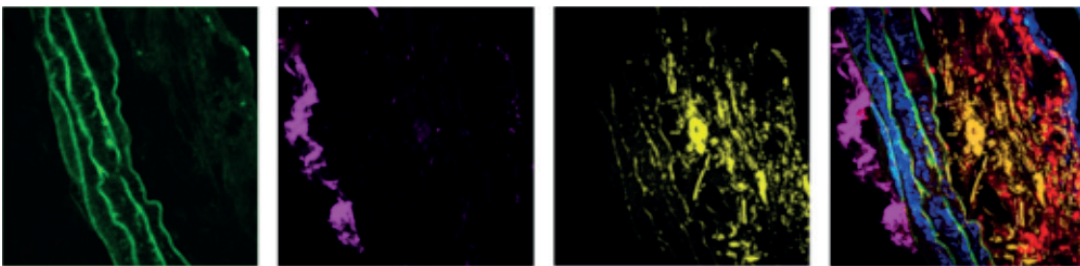


Image Courtesy: Sang-Won Lee & Joo Hyun Park.
Multimodal nonlinear microscopic images incl. TPEF, SHG, CARS and merged image.



APE's picoEmerald - A Reference List

Introduction

Raman-based microscopy and spectroscopy techniques allow samples to be investigated without labeling. The technique visualizes structures in samples by detecting the characteristic intrinsic vibrational contrast of their molecules. Thus, fluorescent dyes are not required.

APE's picoEmerald is an automated two-color laser source. It has been specifically designed to meet the requirements of CARS, SRS, multimodal imaging, SHG/multiphoton fluorescence, and similar methods.

picoEmerald enables the shortest pulses possible for the highest signal level while maintaining maximum spectral resolution in ps-coherent Raman measurements.

Combining picoEmerald with APE's SRS detection module allows very short integration times while maintaining high sensitivity, transforming picoEmerald into an automated source for stimulated Raman scattering (SRS) with up to video-rate speed.

Typical Applications

- CARS - Coherent anti-Stokes Raman Spectroscopy
- SRS - Stimulated Raman Spectroscopy
- SHG - Second Harmonics Imaging
- SEHRS - Surface Enhanced Hyper Raman Spectroscopy

Scientific References (Selection)

Topic	Journal	DOI	Author	Application	System
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(2017). Elucidation of Compression-Induced Surface Crystallization in Amorphous Tablets Using Sum Frequency Generation (SFG) Microscopy.	Pharmaceutical Research	DOI: 10.1007/s11095-016-2046-6	Mah, P. T., Novakovic, D., Saarinen, J., Van Landeghem, S., Peltonen, L., Laaksonen, T., ... & Strachan, C. J.	SFG - Sum Frequency Generation	SP8 with picoEmerald by Leica
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