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REALTIME COLLECTION OF AUTOFLUORESCENCE OF
CORONARY ARTERIES

M. P. Sartori, P. D. Henry, and R. Roberts, Section of
Cardiology, Department of Medicine, Baylor College of
Medicine, Houston, TX

S. Kubadero, R. Sauerbrey, G. L. Valderrama, M. J. Berry,
and F. K. Tittel, Department of Electrical and Computer
Engineering, Department of Chemistry and Rice Quantum
Institute, Rice University, Houston, TX

We used a fiber optic collection system and an optical
multichannel analyzer to record real-time autofluorescence
spectra of human coronary arteries excited with a low power
argon ion laser. The real-time fluorescence spectra were
identical to those we previously obtained with a grating
monochromator over much longer scanning times. Fluorescence
parameters derived from computer deconvolution of the
spectra characterized normal from abnormal arterial tissue.
Histologic examination of frozen arterial samples was
performed by light microscopy to correlate autofluorescence
spectra with the composition of atherosclerotic plaques.
In addition, time-resolved autofluorescence spectra of
samples of human aortas were obtained to determine
characteristic lifetimes of fluorescence peaks.

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