

1.	Scope	4
2.	Introduction	5
3.	An Overview of the Advantages	6
4.	Comparison of Technologies	8
4.1	The Conventional Spectrophotometer	8
4.2	The Diode-array Spectrophotometer	9
4.3	Dual-beam versus Single-beam Configurations	12
5.	Important Instrumental Parameters	14
5.1	Spectral Resolution	14
5.2	Instrumental Dynamic Range – Stray Light and Noise	17
5.3	Wavelength Accuracy and Resettability	20
6.	The Advantages of Diode-array Spectroscopy	22
6.1	Fast Spectral Acquisition	22
6.2	Simultaneous Multiwavelength Measurement	22
6.3	Wavelength Resettability	24
6.4	Dynamic Range	26
6.5	Measurement Statistics	29
6.6	Simplicity and Reliability	30
7.	Applications of Diode-array Spectroscopy	32
7.1	Qualitative Analysis	32
7.2	Quantitative Analysis	33
7.2.1	Single Component Quantitation	33
7.2.2	Multicomponent Analysis	35
7.3	Kinetics	39
Appendix A.	Basics of UV/Visible Spectroscopy	42
A1.	The Electromagnetic Spectrum	42
A2.	What are UV/Visible Spectra?	43
A3.	Quantitation	45
A4.	Deviations from Beer's Law	46
Appendix B.	Definition of Dynamic Range	48
Appendix C.	References	50
Appendix D.	Applications Bibliography	52