新型系列二极管阵列检测器性能评价

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摘　要：对3种不同阵列数的新型二极管阵列检测器-DAD230(256阵列)、DAD230(512阵列)、DAD230(1024阵列)的基线噪声、漂移、线性范围、波长准确性等性能进行系统考察，重点考察阵列分辨率差异对光谱分辨率的影响。通过测试得到3种检测器性能指标分别为：基线噪声在1　2×10　5　～2　1×10　5　AU之间，基线漂移平均为6×10　4　AU，在254nm时对萘的最小检测量以512阵列最好，可达5　11×10　10　g，采用两种方法测试的线性范围都大于1　0×10　4，波长准确性误差依次为0　6nm,1　2nm,1　4nm。各检测器对苯及其同系物的扫描光谱图，体现检测器较高的光谱分辨率。实验结果表明：这种新型系列二极管阵列检测器的性能指标良好，满足设计需要，可作为高效液相色谱检测器使用。

关键词：高效液相色谱,二极管阵列检测器,性能指标

Evaluation of series novel diode array detector for high performance

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Abstract：The series of diode array detectors-DAD230(256 array)、DAD230（512 array）、DAD230（1024 array），were described　The performances of detectors were systematically evaluated with noise drift, dynamic linearity range and wavelength
accuracy　The influence of difference of array resolutiones on the spectral re
solution was emphasised　The noise are about 1　2×10　5　～2　1×10　5　AU，the drifts is averagely 6×10　4　AU，detection limit for DAD230(512array) is 5　11×10　10　g (254nm), which is best in these detectors,　and the linear dynamic ranges were more than 1　0×10　4　with two methods　The absolute deviations of the wavelengths were respectively 0　6nm, 1　2nm, 1　4nm, respectively　The spectrograms of benzene homologues shown the higher spectral resolution　The results had shown that the series of novel diode array detectors had the good performances and meet the need of the design require

Key words：High performance liquid chromatography,Diode array detector,P