

## Accepted Manuscript

Title: Seeking Universal Detectors for Analytical Characterizations

Authors: Kelly Zhang, Kenji Kurita, Cadapakam Venkatramani, David Russell



PII: S0731-7085(18)31392-X  
DOI: <https://doi.org/10.1016/j.jpba.2018.09.029>  
Reference: PBA 12222

To appear in: *Journal of Pharmaceutical and Biomedical Analysis*

Received date: 11-6-2018  
Revised date: 14-9-2018  
Accepted date: 15-9-2018

Please cite this article as: Zhang K, Kurita K, Venkatramani C, Russell D, Seeking Universal Detectors for Analytical Characterizations, *Journal of Pharmaceutical and Biomedical Analysis* (2018), <https://doi.org/10.1016/j.jpba.2018.09.029>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

## Seeking Universal Detectors for Analytical Characterizations

Kelly Zhang\*, Kenji Kurita, Cadapakam Venkatramani, David Russell

*Genentech Inc., 1 DNA Way, South San Francisco, CA 94080, United States*

\* Corresponding author.

E-mail address: zhang.kelly@gene.com (K. Zhang).

### Highlights

- Universal detectors that can detect all types of compounds and give uniform response regardless of their physicochemical properties are highly desirable
- Reviewed commonly used detectors in analytical characterization, including UV, RI, ELSD, CAD, CLND, FID, VUV, MS, NMR, etc. and hyphenated detection
- Focused on the “universal” features of these detectors

### Abstract

It is highly desirable to have a universal detector that can detect all types of compounds and give a uniform response regardless of the physicochemical properties of the compounds. With such a universal detector, all components in a sample can be accurately quantified without the need for individual standards. This is especially needed for the characterization of unknowns and for non-targeted analysis, or for samples that have no isolated standards available for each component. Over the years, much effort has been put into seeking a universal detection technology. In this review, we discuss the commonly used detectors for analytical characterization, including UV, RI, ELSD, CAD, CLND, FID, VUV, MS, NMR, and hyphenated detection, with the focuses on the “universal” features of these detectors regarding the types of molecules they can detect and the uniformity of responses.

### Abbreviations

APCI	Atmospheric pressure chemical ionization
APPI	Atmospheric pressure photo ionization
CAD	Charged aerosol detector
CI	Chemical ionization
CLND	Chemiluminescent nitrogen detector
DAD	Diode array detector
DHA	Docosahexaenoic acid

Download English Version:

<https://daneshyari.com/en/article/11027361>

Download Persian Version:

<https://daneshyari.com/article/11027361>

[Daneshyari.com](https://daneshyari.com)