Technical Note 104

EasyApps® Highlights

Introduction

The DeNovix® DS-11 Series Spectrophotometer / Fluorometer is a compact, stand-alone instrument with an intuitive and easy-to-use icon driven software. Separate preconfigured applications for each of the most commonly measured biomolecule types ensure that methods are optimized and simple to use.

This technical note will highlight some of the key features of the DS-11 Series software, EasyApps®.

Android OS

The Android™ operating system is today's most widely used platform for mobile devices, including smartphones and tablets. The direct swiping, tapping, pinching and reverse pinching manipulations provide an immediate and fluid user interface.

The DeNovix DS-11 Series interface uses a customized Android ™ OS, taking advantage of several touchscreen navigation features already familiar to many of today's researchers (figure 1). In addition, the software uses standard Android™ icons, such as the ones shown in the table below, to eliminate the need for learning something unique to a new device.

Icon	Type	Icon	Type
	Edit		Select All
	Add		Help
	Delete		Overflow

Figure 1: Standard Android™ icons.

Nucleic Acids

To simplify a busy lab's workflow, the three most common nucleic acid types (dsDNA, RNA and ssDNA) are measured by launching distinct apps on the Home screen. The absorbance mode app icons are shown below. These apps use specific automatic sample type selections, saving time and reducing errors associated with using incorrect factors for concentration calculations.

Proteins and Peptides

The absorbance Protein A280 app includes an easy feature to save and recall new protein types. This convenient method, combined with the instrument's ultra short pathlength capability, enables measurements of protein samples with absorbance values of 500A (1 cm equivalent). No other spectrophotometer currently on the market can measure such highly concentrated proteins.

The absorbance Peptide app may be used for low concentration peptides that do not contain aromatic amino acid residues. Peptides with aromatic residues should be measured using the Protein A280 app.

The Colorimetric app is designed for easy routine BCA, Bradford, Lowry and Pierce 660 nm assays. Standard curves may be saved and recalled for ease of use. New colorimetric assays are easily added using the User Method app.

UV-Vis and Custom Methods

The DS-11 Series Spectrophotometer can be used for more than nucleic acid and protein measurements. The simple UV-Vis app allows users to analyze samples with absorbance between 190 and 840 nm.

The powerful Custom Std Curves and Custom Formula Methods apps have been designed as tools to create new standard curve and UV-Vis methods in the fewest possible steps. The custom formulas capability can save users the time associated with routine calculations.

Kinetics and OD600

The DS-11 Series Spectrophotometer's combined microvolume/cuvette model software includes a Kinetics app that lets users take advantage of its built-in heater. This feature offers a 37 – 45˚C range for temperature-controlled time vs absorbance measurements.

Both the microvolume and cuvette modes enable the OD 600 app to be used to measure microbial cell culture suspensions.

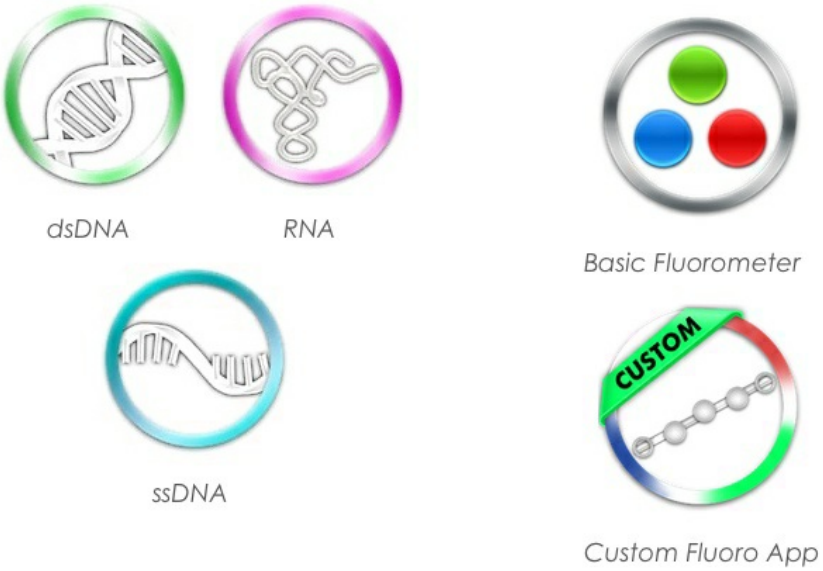
Fluorescence Standard Curve Apps

The four apps listed below, as well as the Custom Fluoro Standard Curves app, are designed using a common intuitive standard curve architecture.

The biomolecule specific apps include preconfigured assays designed to accommodate commonly used, commercially available nucleic acid and protein quantitation assays. Assays include multipoint assays such as Quant-it™, Quantifluor and Qubit™ options.

Users may add new assays within the molecule specific app or the Custom Fluoro Standard Curves app to meet their research needs.

In addition, standard curves and lists of standard curve concentration values may be saved and recalled for quick use.



Basic Fluorometer and Custom Assays

These Apps enable the DS-11 Series Fluorometer to be used as a versatile fluorometer for applications such as dye QC checks and assay development.

The Basic Fluorometer App is especially useful for fluorophores with significant Stoke shifts. It allows the user to excite a sample with one LED and get RFU results from multiple emission channels.

Custom assays can be configured and saved using the Custom Fluoro App.

Data and Data Connectivity

A search friendly Data app facilitates quick recall and review of all sample data. Flexible export format options enable users to rename report column names and select the information of interest.

The instrument is WiFi and Ethernet compatible and enables data to be exported via E-mail, copied to a USB or saved to networked folders.

Password protected Accounts ensure the integrity of saved data, settings and methods.

Sample data may be printed to a networked printer and Dymo label printers.

- 4 x 6 inch labels and 2.5 inch paper rolls are used to print screen captures and report results.
- 1 x 0.5 inch labels are used to print sample names, concentrations, units and dates that are suitable for microfuge tubes.

Additional Apps

The Diagnostics app ensures user confidence that their instrument is meeting performance specifications. The Updater app keeps users up-to-date with all the latest DS-11 Series software features.

The Calculator app includes scientific, oligo and dilution calculators while the Timer is a handy tool to monitor lab reaction and incubation times.

Summary

The DS-11 Series EasyApps software has been designed to take advantage of the full capabilities of DeNovix instruments. The intuitive user interface is an excellent complement to the sleek, modern instrument design and ensures that routine measurements are quick and efficient.

DS-11 Series instruments provide the intuitive, powerful and easy-to-use options sought after by today's research labs.

NanoDrop ™ , NanoDrop ™ One, Quant-iT and Qubit® are registered trademarks of Thermo Fisher Scientific and its subsidiaries. Quantifluor® is a registered trademark of Promega® Corporation.

Revised 19 Oct 2020

DeNovix Inc.
3411 Silverside Road
Wilmington, DE 19810, USA

Phone: +1.302-442-6911
Email: info@denovix.com
www.denovix.com