

EasyApps® Highlights
Technical Note 104

Introduction

The DeNovix® DS-11 Spectrophotometer is a compact, stand-alone instrument with intuitive, easy-to-use icon driven software. Pre-configured separate applications for each of the most commonly measured biomolecule types ensures that methods are optimized and simple to use.







This technical note will highlight some of the key features of the DS-11 software apps.

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 provides an immediate and fluid user interface.

The DeNovix DS-11 interface uses a customized Android OS which takes advantage of many of the touchscreen navigation features already familiar to many of today's researchers. 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.

Table 1: Standard Android Icons

Icon	Type	Icon	Type
	Edit		Select All
	Add		Help
	Delete		Overflow

Nucleic Acids

To streamline the busy lab's workflow the three most common nucleic acid types (dsDNA, RNA and ssDNA) are measured launching distinct apps on the Home screen. This ensures each application is optimized for quick measurements. Sample type selections are automatic, saving time and reducing errors associated with using an incorrect factor for concentration calculations.



dsDNA



RNA



ssDNA

Proteins and Peptides

The DS-11 Protein A280 app includes an easy feature to save and recall new protein types. This convenience combined with the instrument's ultra short pathlength capabilities enable 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.



Protein A280



Peptides

The 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.

Labeled Nucleic Acids and Proteins

Microarray and Labeled Protein apps enable quick quality control measurements before running costly genomic and proteomic array experiments.



Microarray



Labeled Proteins

The DS-11 software includes 11 pre-configured dyes and labels with the option to quickly add and save an unlimited number of additional dyes and fluorophores. This option ensures you will be able to take advantage of new dye technologies as they evolve.

Colorimetrics

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 spectrophotometer can be used for more than nucleic acid and protein measurements! The simple UV-Vis app allows you to analyze samples with absorbance between 190 and 840 nm.



UV-Vis



Std Curve
Methods



Formula
Methods

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 you the time associated with routine calculations.

Kinetics and OD600

The DS-11+ combined microvolume/cuvette model software includes a Kinetics app that lets you take advantage of a built in heater with a 37° to 45° C range for temperature controlled time vs absorbance measurements. The OD600 app is used to measure microbial cell culture suspensions.



Kinetics



OD600

Additional Apps

A search friendly Data app facilitates quick access to all sample data while password protected Accounts ensure the integrity of saved settings and methods. The Calculator app includes scientific oligo and dilution calculators in one convenient tool while the Updater app ensures you can stay up-to-date with all the latest DS-11 software features.



Data



Accounts



Calculator



Updater

Summary

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

In summary, the DS-11 Spectrophotometer provides the ease-of-use and the powerful options necessary for today's research labs.

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