



Material ID through Dark Brown PV Bag

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This technical note is to demonstrate the ability of the NanoRam® (785 nm laser excitation) for material identification through dark brown plastic bags. Tests have been done for material identification test directly from outside dark brown polyvinyl bag using NanoRam.

The bag used for test is a dark brown polyvinyl (PV) bag with 0.07mm thickness. Tylenol tablet inside the bag was used for testing.

Test Condition:

Remove point and shoot adaptor. With only the standard shaft, position the NanoRam so that the standard shaft is directly in contact with the bag and right against the sample inside the bag.



Investigation test on the NanoRam was run using the following operation preset:

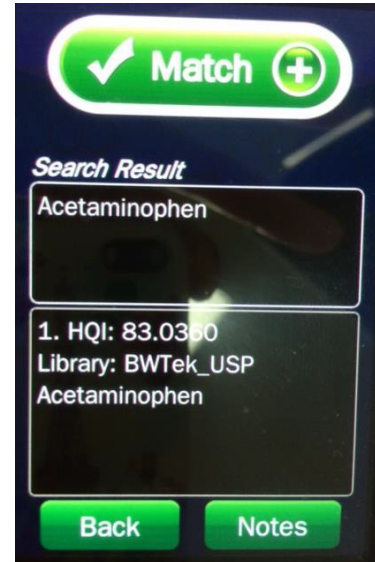


Laser power: 50% Minimum HQI: 80
Number of hits: 3
Spectral range: 176-2500cm⁻¹
Library: B&W Tek USP Library

It is important to set the laser power low (in this case, 50%) to prevent from laser burning the bag. Also, the removal of point and shot adaptor helps defocusing the laser onto the brown bag.

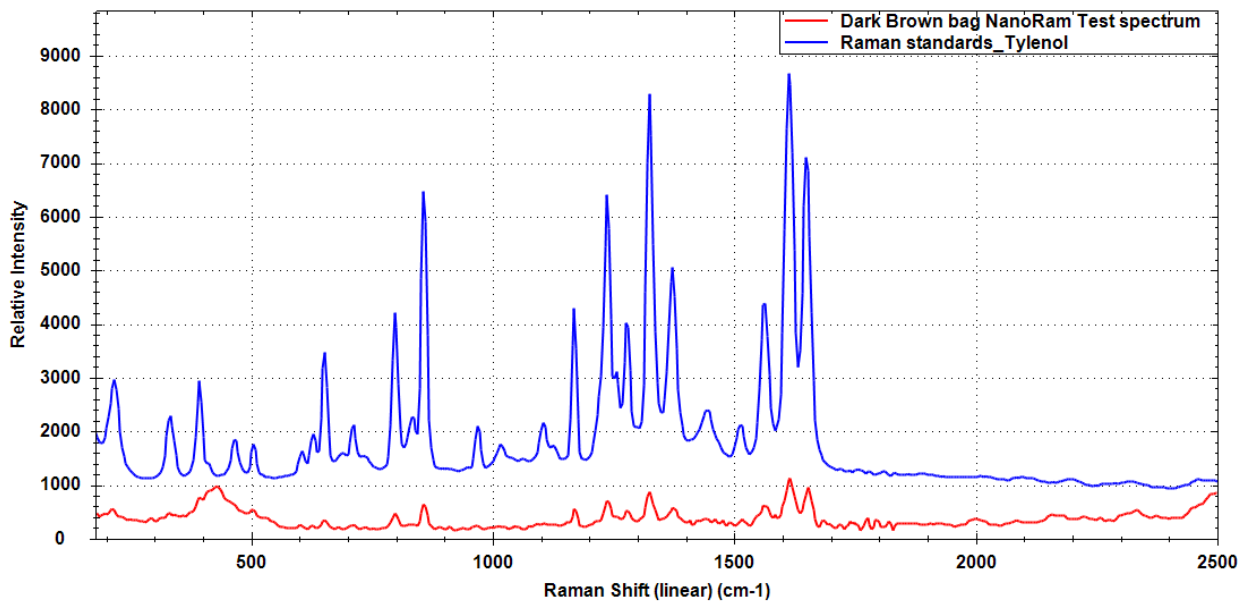


A result of **Match** to acetaminophen was obtained with HQI=83.03.



Spectra and Report:

The following figure shows the overlay of the two spectra: test spectrum from the Tylenol tablet measured directly from outside the dark brown bag (red) and the Tylenol spectrum from the library (blue).



The intensity of the measurement is much lower than that from a transparent bag, but it still gives adequate Raman signature to find the correct match within the library.



The NanoRam test report is attached below.

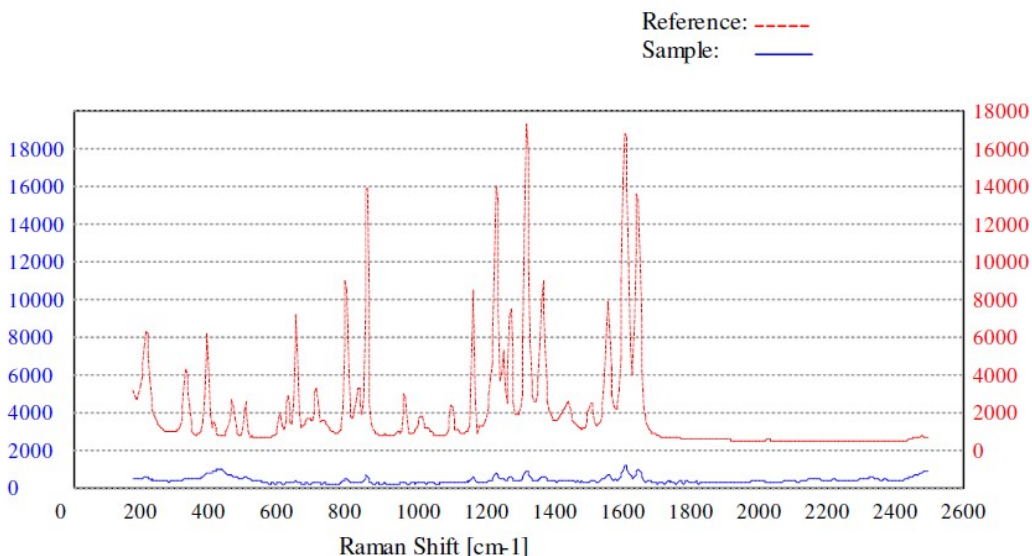
Investigation Report



Scan Index: 24

NID Client V5.00

Device SN:	SAIDMC	Barcode: N/A Supplier: N/A Expiration Time: N/A	Last Perf. Validation User Name: ADMIN Date and Time: 2014/10/17 21:50:39 Result: Pass HQI: 99.9005 Relative Intensity: 1.1821 Calibration file: Polystyrene(2014/09/12 10:00:59)
Product Name:	BB50		
Test Time:	2014/11/21 15:39:31	Run Name: N/A Note: N/A	
User Name:	ADMIN		
Laser Power:	50%		
Found in Library:	BWTEK_USP		
Minimum HQI:	80		
Hit Number:	3		
Raman Shift Range:	176 [cm-1] - 2500 [cm-1]		
NOS Version	V5.00.06.04G		
Result:	Match		
HQI:	83.0360		
Matched Sample Name:	Acetaminophen		



Approved by: _____ Date: _____