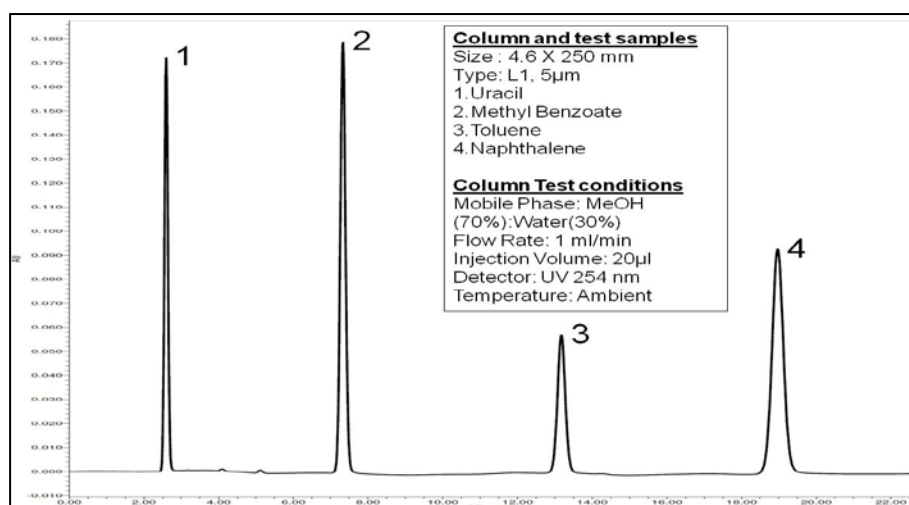




## CHROMASOL JADE

CHROMASOL JADE analytical columns are process defined, measured, validated, controlled and deployed for assays near-real and separation methods best known in the industry. CHROMASOL JADE brand is the way forward for efficient and better separations.

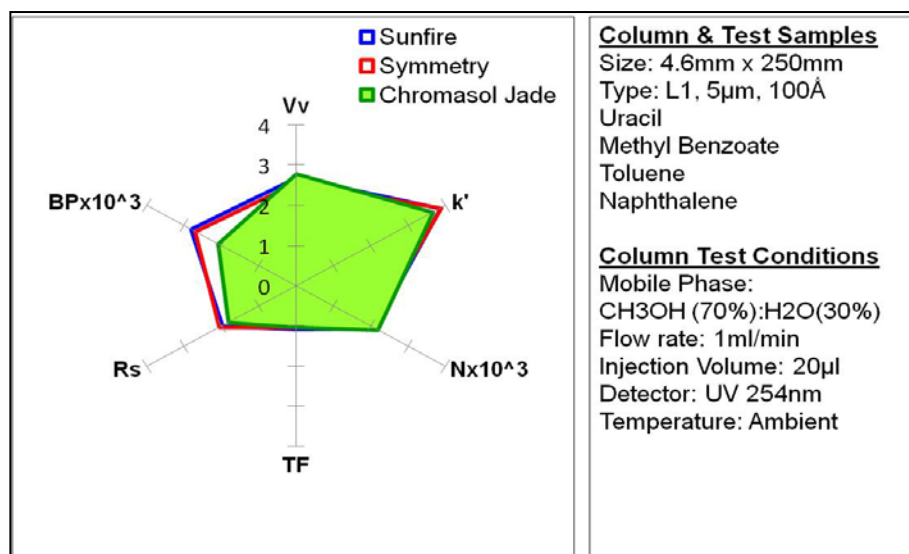
CHROMASOL JADE has high purity porous spherical 5 $\mu$ m silica stationary phase with C18 Chemistry and carbon wt% of 16, surface area of 400 m<sup>2</sup>/g, pore size of 100Å, 120Å and end capped for good peak shape.



CHROMASOL JADE columns are tested and a typical Chromatogram is illustrated.

## Performance Characteristics

The overall performance of CHROMASOL JADE is illustrated in the radar plot with some of the important inherent characteristics tested.





- **Void volumes ( $V_v$ , mls)**

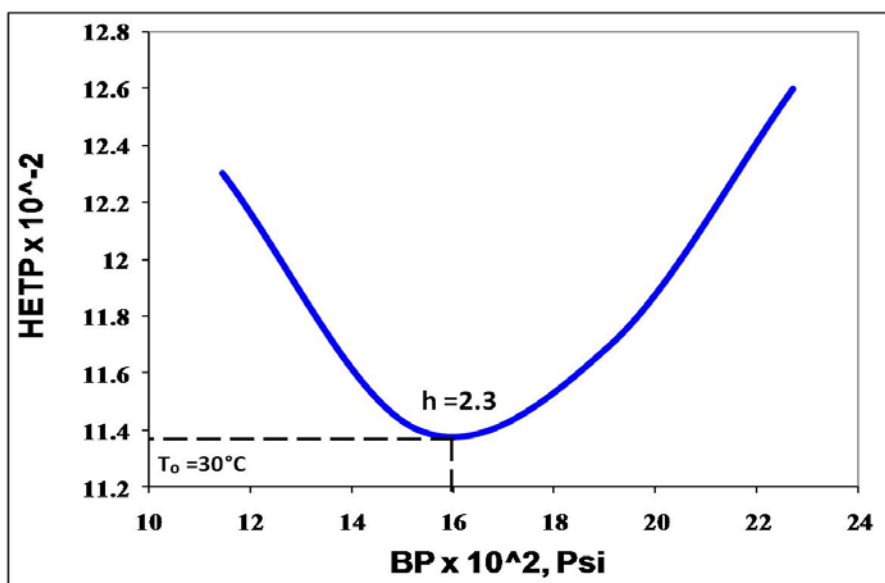
Void volumes are close to the prognosticated value indicating that the Intek Chromasol column packing process is effective in producing consistently good quality columns.

- **Back pressure (BP, Psi)**

Importantly BP which influences retentivity is better

- **Theoretical Plates Number (N) or the Efficiency (HETP)**

Intek Chromasol strongly believes that the Deemter's philosophy in general, invokes the chromatographers' choice of column capabilities be centered on the "optimal" with input control parameters and idealized analytical method as variables. Indeed the efficiency profile as a function of back pressure (BP) a transcribe function of the analysis speed control, typified by a column in the flow path indicates that CHROMASOL JADE is endowed with an N (% RSD = 3.2), good efficiency in terms of height equivalent to theoretical plates (HETP) and an optimal reduced plate height ( $h$ ) of 2.28. In fact  $h$  of about 2.0 is related to the methods by which excellent quality columns are packed. A value of 2.0 would be exceptional, but such results are rare and proven difficult to reproduce. CHROMASOL JADE has excellent efficiency and a true performer.

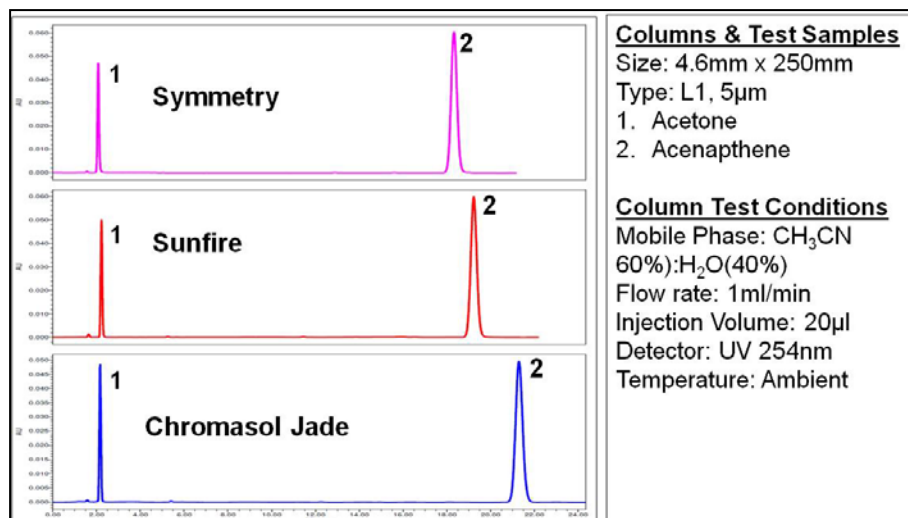


- **Peak Shape (TF)**

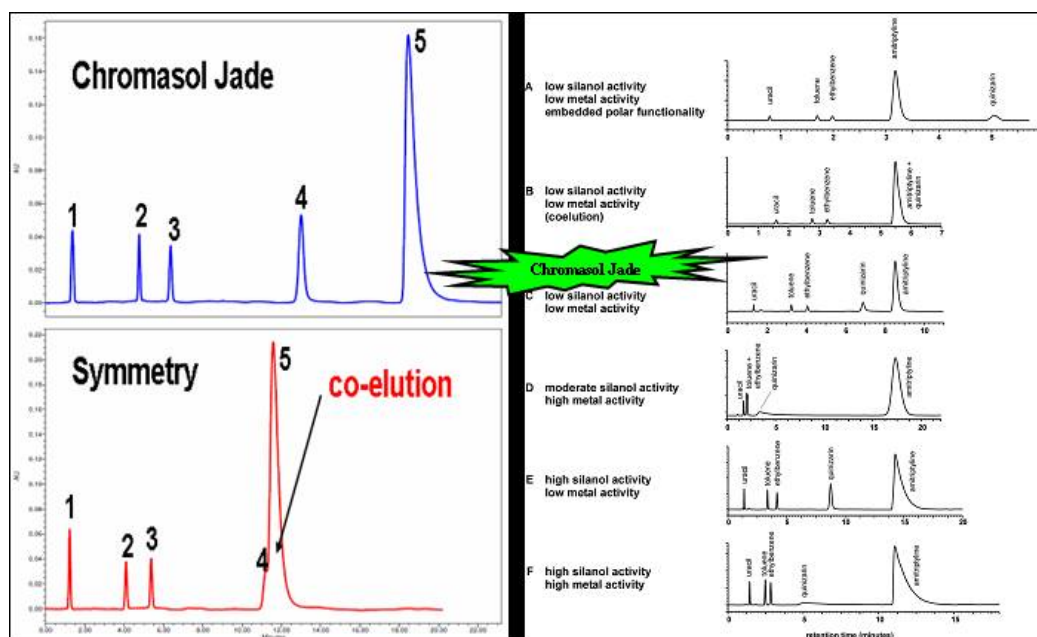
CHROMASOL JADE offers good peak shape or tailing factor (TF) with a % RSD = 1.3 and comes of great benefit in good resolutions.

- **Retentivity and Resolution ( $R_s$ , mins)**

Most often the extent of retentivity and eventual resolution columns offer are important. CHROMASOL JADE has higher retentivity and imparts performance good to decipher subdued resolutions. This is a major factor in the safe deployment of critical methods and stage quality functions in laboratories for deliverables with optimum assurances.



- **Selectivity Factor ( $\alpha$ )**



In a single NIST Standard test regime of using SRM 870, a broader characterization of CHROMASOL JADE reveals the five finger pattern as an ideal case C illustrated in the examples of separations of NIST SRM 870 on commercial C18 columns. CHROMASOL JADE column shows good resolution of Quinizarin and Amitriptyline suggestive of low silanol or metal activity. CHROMASOL JADE as an ideal NIST conformant also has a good selectivity factor.

### Selectivity factor of Chromasol JADE

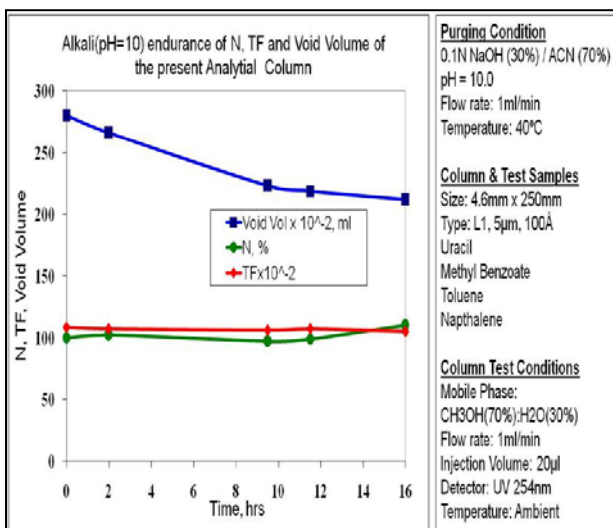
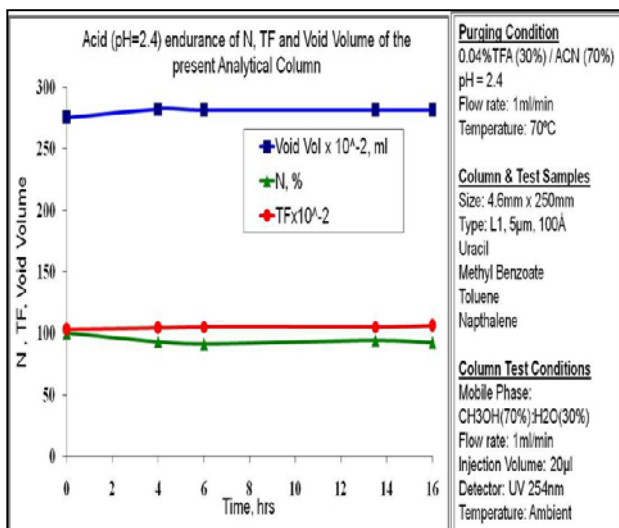
Column Brand	$k'_{\text{Toluene}}$	$k'_{\text{Ethyl benzene}}$	$\alpha_{\text{Ethyl benzene}}$
Chromasol JADE	2.5	3.97	1.58
Sunfire	2.3	3.41	1.48
Symmetry	2.3	3.39	1.45



- **Performance Stability**

CHROMASOL JADE is stable under acid or base pH (2-10) and elevated temperature conditions.

Under acid purging condition at an elevated column temperature of 70°C for 16 hrs, a marginal increase of 2%-3% occurs in the void volume and tailing factor while the plate number increases by 9%.

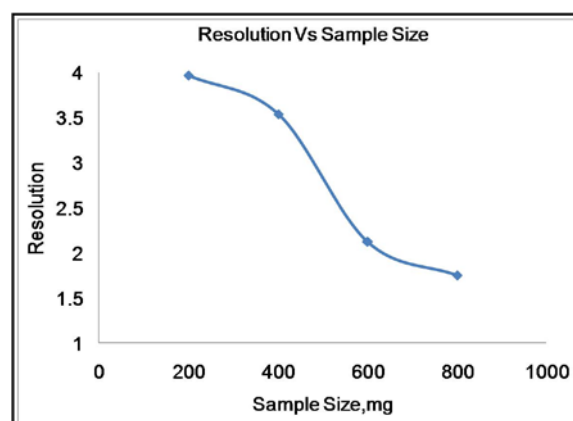
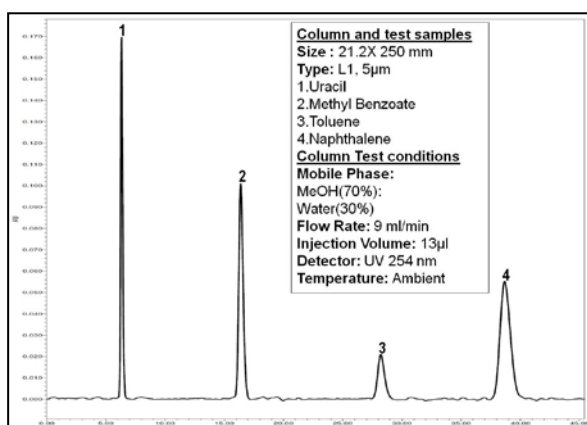


Under alkali (pH=10.0) purging condition at an elevated temperature of 40°C for 16 hrs CHROMASOL JADE first shows good alkali endurance of N with a marginal decrease of 3% in the first 9.5 hrs and next an increase by 13% in the remaining time up to 16hrs. The tailing factor decreases by 2.7% while the void volume shows decrease by 24%.



## CHROMASOL JADE PREP

Intek Chromasol Preparatory scale columns have superior performance features with 33% more plate numbers and offer better peak shape benefits compared to exotic columns in its class. In scaling up purifications to sizeable magnitude, one can relatively load a larger quantity of the sample in the injection volume and the separation patterns are controllable by adjusting the flow rate for the column cross section in use. For a resolution of  $\leq 1.75$  mins between ethyl benzoate and methyl benzoate, CHROMASOL JADE PREP can take a loading of  $\geq 800$ mg. The larger load ability of these columns is a huge benefit and has been a performer in large scale separations of third party applications.



Prep HPLC column Performance					
Brand	Column Size	Particle size	Plates (N)	Tailing Factor (10%)	Performance Remarks
CHROMASOL JADE - PREP	21.2 x 250	5 $\mu$	25230	1.05	<ul style="list-style-type: none"> <li>Higher injection volume</li> <li>Superior N@ 5<math>\mu</math> and 10<math>\mu</math>,</li> <li>Superior Peak shape</li> <li>Greater Load ability: ~1g as per miscibility</li> <li>Rs Distortion : ~0.5%</li> </ul>
	21.2 x 250	10 $\mu$	11500	1.14	

## Ordering Information

Bonded Phases	Particle size, $\mu$ m	Pore Size, Å	Column Size, mm	Part No
C18	5	100	4.6 x 250	IC185100-4625
			4.6 x 150	IC185100-4615
			4.6 x 100	IC185100-4610
		120	4.6 x 250	IC185120-4625
			4.6 x 150	IC185120-4615
			4.6 x 100	IC185120-4610
		100	21.2 x 250	IC185100-21225
			21.2 x 150	IC185100-21215
			21.2 x 100	IC185100-21210
	10	100	21.2 x 250	IC1810100-21225
			21.2 x 150	IC1810100-21215
			21.2 x 100	IC1810100-21210

A performance validation report will be furnished with every column ordered.

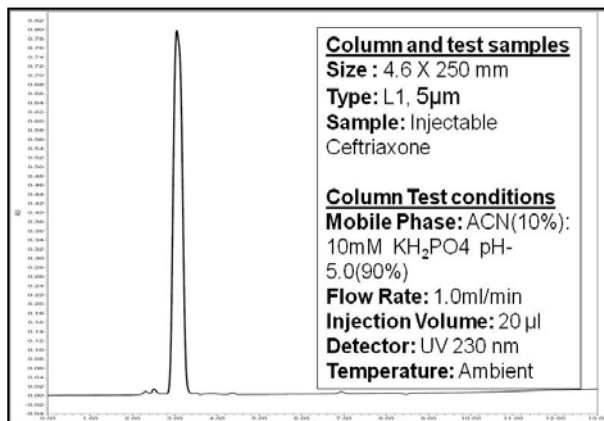




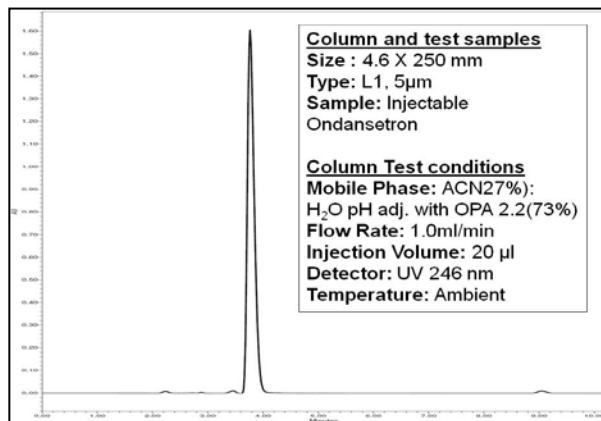
## CHROMASOL JADE APPLICATIONS

### Injectables and Tablets

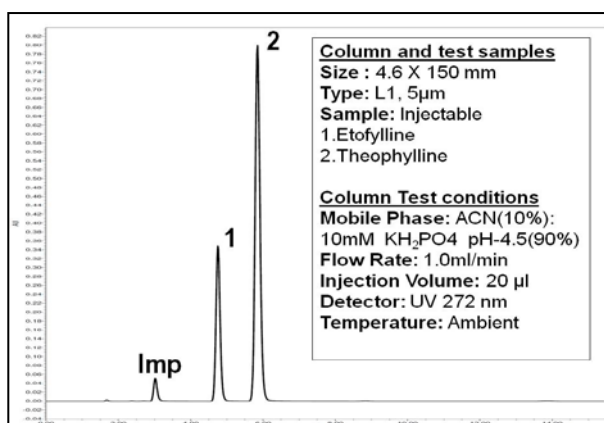
#### Antibiotic



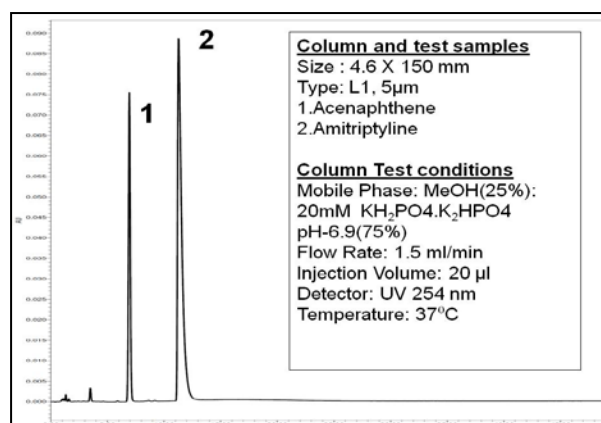
#### Antiemetic



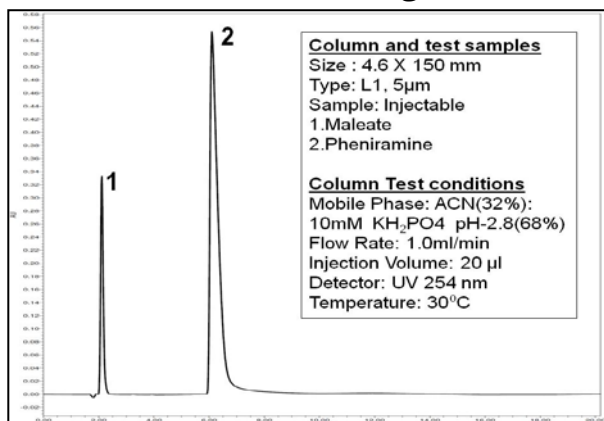
#### Antiasthmatic



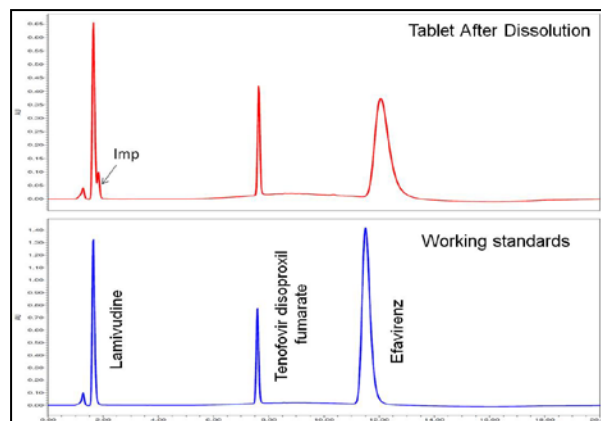
#### Antidepressant



#### Antiallergic



#### Antiretroviral Tablet



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