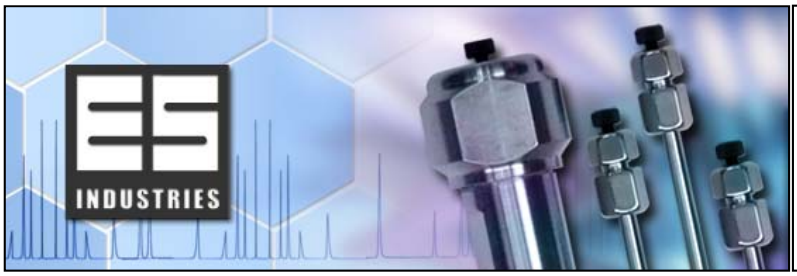


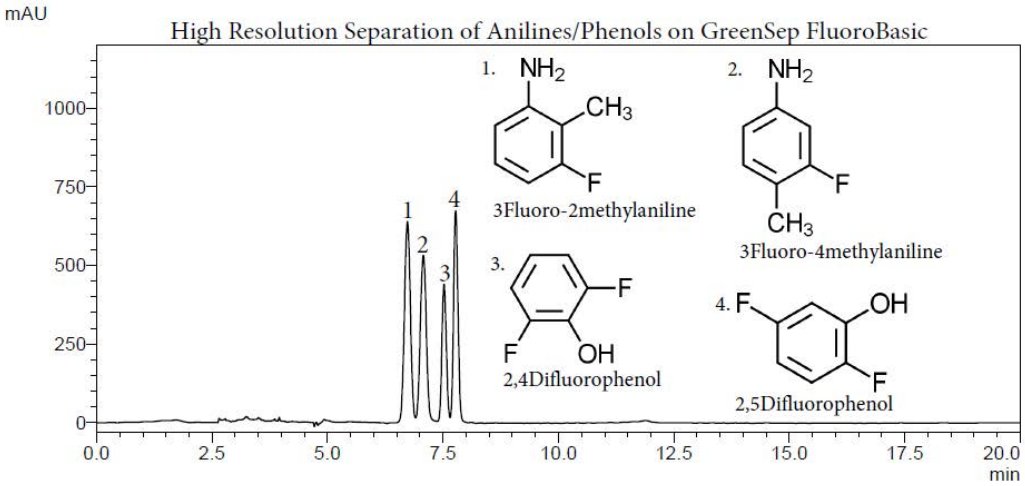
APPLICATION NEWS

GreenSep™ FluoroBasic SFC Columns

Supercritical fluid chromatography (SFC) is a powerful chromatographic technique for the separation of complex mixtures. It has been useful in the areas of preparative chromatography and rapid analysis chromatography. Many SFC separations have been forced to utilize older types of stationary phases from “normal phase” HPLC such as unmodified silica, diol, amino and cyano. These phases are poorly adapted to SFC and present a number of limitations for SFC separations. Limitations include: low capacity, poor selectivity, and poor peak shape for SFC separations.

At ES Industries we have developed a new line stationary phases specifically engineered for SFC separations, one of these phases is GreenSep FluoroBasic. This stationary phase has proven superior to conventional stationary phases (such as diol, cyano etc...) in the areas of separation selectivity, peak shape and loading capacity. GreenSep FluoroBasic is based on fluorinated imidazole chemistry providing a highly basic and fluorinated character for this stationary phase. The addition of a fluorine groups into this stationary phase can be useful in promoting fluorophilic retention mechanism which can provide improved retention for fluorinated compounds (1). A fluorophilic retention mechanism can be particular useful in medicinal chemistry and drug discovery, where more than a third of newly approved small molecule drugs contain fluorine (2). The chromatogram shown below is a prime example of the superior peak shape performance and separation capacity obtainable with the GreenSep FluoroBasic column with SFC. The chromatogram contains fluorinated chemicals that are functionalized aniline (basic) and phenolic (acidic) compounds and demonstrates the retention capability that GreenSep FluoroBasic can deliver to the SFC chromatographer. In addition the methanol modifier solvent used in this chromatogram contains no other additive such as TFA or DEA making this column ideally suited for preparative applications and offers the preparative chromatographer greater flexibility and higher throughput. GreenSep FluoroBasic is the SFC column is ideally suited for the retention and rapid separation of chemicals containing amine and acidic groups. GreenSep FluoroBasic can easily replace conventional stationary phases used in SFC and deliver superior performance.

(1) Curran, D. P., *Synlett* **2001**, (9), 1488-1496.
(2) Jarvis, L. M., *Chemical & Engineering News* **2013,** 91, (5), 15-17.



Column: GreenSep FluoroBasic
250 X 4.6mm 5um
Catalog # 155291-GS-FLBC
Mobile Phase: CO_2/Methanol
Gradient: 3mL/min
Detection: UV @ 254nm
BPR: 200 bar

Time(min)	%Methanol
0	5
3	10
8	20
20	20

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Leaders in Innovative HPLC Column Technology for over 40 years