

Reusable Santai SepaFlash™ Ruby Series

Columns Run Separation Up to 100 times

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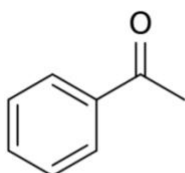
Chromatography Application Note

ANSS-007

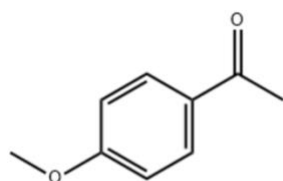
The SepaFlash™ Ruby series columns are one of the latest products from Santai. They are pre-packed with $25 \pm 1 \mu\text{m}$ spherical silica gel. SepaFlash™ Ruby series columns have the best performance among all our columns including S5101 series (silica gel $40\sim 63 \mu\text{m}$ irregular) and SW2101 series ($20\sim 45 \mu\text{m}$ spherical). These comparison experiments were reported in our previous application note AN022, for free access please visit <http://www.santaisci.com/applicationnotes>



In addition to their supreme performance, our Ruby series columns are reusable if stored properly. In this longevity experiment, the separation performance of the Ruby column is tested with acetophenone and *p*-methoxyacetophenone using isocratic eluent hexane and ethyl acetate (80%:20%). After running the separation for 100 times, there is no difference



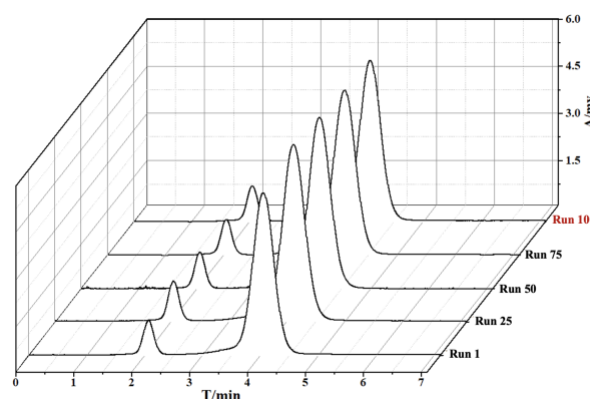
Acetophenone



p-Methoxyacetophenone

between the 1st run and the 100th separation. As shown in the graph and table below, the performance of the column is consistent within these 100-separation run.

This test was carried out in 20 days, 5 runs per day. At the end of each day, the column is washed with 3–5 column volumes of ethanol and is stored with both endcaps on in the fridge. The proper washing and storage are very important to maintain the performance of the Ruby Column.



Separation	<i>t_R</i>	N	<i>R_s</i>	T
Run 1	2.0 min	529	3.81	0.97
Run 25	2.1 min	487	3.69	0.94
Run 50	2.1 min	500	3.71	0.97
Run 75	2.0 min	483	3.70	0.97
Run 100	2.1 min	525	3.72	0.97

To determine the best solvent for preserving the Ruby column, Santai team has done experiments with various solvents. Ethanol is shown to be the best preservation solvent. With proper storage under ethanol, the column shows no obvious change in the appearance and no changes in separation performance. For all the details, please refer to our application note AN023, which can be downloaded for free at <http://www.santaisci.com/applicationnotes>

Santai Ruby column is an excellent choice for separation with normal phase silica gel. Not only because the Ruby column has the best separation

performance, also because when it is stored properly in ethanol, column can be reused up to 100 times. Therefore, the cost of use the Ruby column for each separation is less than \$0.10, which is a fraction of the cost of most columns.



Santai produces a series of SepaFlash™ Ruby flash columns in different sizes ranging from 4 g to 330 g, which can satisfy your separation needs of 4 mg to 99 g of sample.

High-capacity spherical silica, 25 µm, 50 Å (NEW Product)
(surface area 700 m²/g, pH 5.0-8.0, loading capacity 0.1-30%)

Item Number	Column Size	Sample Size	Units/Box	Flow Rate (mL/min)	Cartridge Length (mm)	Cartridge ID (mm)	Max. Pressure (psi/bar)
SW-2102-004-SP(H)	4 g	4 mg-1.2 g	20	15-30	113.8	12.4	400/27.5
SW-2102-012-SP(H)	12 g	12 mg-3.6 g	18	25-50	134.8	21.4	400/27.5
SW-2102-025-SP(H)	25 g	25 mg-7.5 g	12	25-50	184	21.4	400/27.5
SW-2102-040-SP(H)	40 g	40 mg-12 g	12	30-60	184.4	26.7	400/27.5
SW-2102-080-SP(H)	80 g	80 mg-24 g	10	40-80	257.4	31.2	350/24.0
SW-2102-120-SP(H)	120 g	120 mg-36 g	10	45-90	261.5	38.6	300/20.7
SW-2102-220-SP(H)	220 g	220 mg-66 g	6	60-120	223.5	61.4	300/20.7
SW-2102-330-SP(H)	330 g	330 mg-99 g	5	60-120	280.2	61.4	250/17.2