

MetaCarb HPLC Columns

Columns for Carbohydrate and Organic Acid Analysis

Retention Times of Sugars, Polyols, and Organic Acids on MetaCarb Columns

Compound	Columns Primarily for Carbohydrates					Columns Primarily for Organic Acids				Compound
	67C	Ca Plus	87C	Pb Plus	87P	87K	87H	H Plus	67H	
Nitrate		4.57	7.37		10.37					Nitrate
Maltoheptose		4.73	7.35		11.81					Maltoheptose
Maltohexose		4.85	7.45		13.31					Maltohexose
Maltopentose		5.07	7.60		13.15					Maltopentose
Amiprylose		4.57	7.75		Ng					Amiprylose
Styachyose	5.94	5.35	7.85	11.84	13.48	6.32	6.94			Styachyose
Maltotetrose		5.44	7.87		14.14					Maltotetrose
Melezitose	5.85	8.27		13.92						Melezitose
Raffinose	6.56	5.93	8.31	12.01	14.47	6.96	7.65			Raffinose
Maltotriose	6.68	5.98	8.35	12.63	15.24	7.36	7.18	10.28	4.23	Maltotriose
Cellobiose	7.36	6.72	9.01	13.53	15.65		7.76			Cellobiose
Trehalose	7.32	6.13	9.14		16.05	8.22	8.00			Trehalose
Sucrose	7.48	6.83	9.18	13.51	15.77	8.08	N/R			Sucrose
Maltose	7.59	6.98	9.24	14.43	16.68	8.56	7.78	11.52	4.74	Maltose
Melibiose	7.67	7.07	9.43	15.25	17.70		7.88			Melibiose
Lactose	7.84	7.08	9.51	7.84	17.44	8.72	8.13	11.86	4.88	Lactose
Lactulose	8.53	7.64	10.24	8.53	20.77			12.41	5.10	Lactulose
Glucose	9.36	8.79	11.24	16.09	19.21	11.20	10.11	14.18	5.83	Glucose
Lactilol		8.62	12.24		33.30					Lactilol
Xylose	10.31	9.63	12.39	17.96	20.71	12.24	10.33			Xylose
Maltitol	9.15	8.61	12.29		30.45	8.16				Maltitol
Galactose		9.65	13.89		22.39		10.85	15.32	6.31	Galactose
Sorbose	10.22	9.12	12.93	19.45	22.45	13.16	9.90			Sorbose
Mannose	10.51	9.87	12.83	20.39	25.57	12.48	9.98			Mannose
Rhamnose		10.41	9.71	12.93	19.53	22.63	13.37	11.20		Rhamnose
Fructose	11.40	10.14	13.70	22.59	25.91	12.16	10.39	15.71	6.46	Fructose
Fucose	11.33	10.63	13.89	27.93	24.23	11.98	12.05	17.89	7.35	Fucose
Arabinose	11.63	11.00	14.00	21.73	24.02	13.44	11.23	17.02	6.99	Arabinose
Myo-inositol		10.89	14.34		35.65					Myo-inositol
Digitoxose	10.33	14.27		21.02						Digitoxose
Ribitol		11.01	15.62		30.79					Ribitol
Tagatose		11.60	16.53		Ng					Tagatose
Mannitol	12.76	11.91	17.89	34.51	40.10	10.08		15.85	6.52	Mannitol
Arabitol	13.23	12.39	18.43	33.98	39.89	10.80				Arabitol
Xylitol	15.06	14.00	22.00	44.76	51.22	11.36	8.35			Xylitol
Galactitol		12.12	20.53		52.50					Galactitol
Sorbitol	14.91	13.71	21.41	50.76	56.63	10.64	8.32	16.17		Sorbitol
Ribose	16.46	13.91	21.99	45.59	55.00	14.16	9.21			Ribose
Glucuronic Acid							8.10	11.99	4.87	Glucuronic Acid
Galacturonic Acid								13.23	5.44	Galacturonic Acid
Oxalic Acid							6.35	9.30	3.89	Oxalic acid
Maleic Acid							7.21	10.92	4.49	Maleic Acid
Citric Acid							8.03	12.21	5.02	Citric Acid
IsoCitric Acid							8.25	12.48	5.13	IsoCitric Acid
Tartaric Acid							8.68	12.91	5.31	Tartaric Acid
Malonic Acid							8.55	14.32	5.89	Malonic Acid
Malic Acid							10.04	15.21	6.25	Malic Acid
Succinic Acid							13.11	19.85	8.16	Succinic Acid
Lactic Acid							13.51	20.43	8.41	Lactic Acid
Formic Acid							14.74	22.32	9.13	Formic Acid
Fumaric Acid							15.40	22.21	9.18	Fumaric Acid
Acetic Acid							16.54	25.05	10.30	Acetic Acid
Adipic Acid							19.05	28.85	11.86	Adipic Acid
Propionic Acid							19.67	29.77	12.24	Propionic Acid
Butyric Acid							24.51	37.09	15.25	Butyric Acid
Glycerol							14.22	21.45	8.82	Glycerol
Ethylene Glycol							17.08	25.85	10.63	Ethylene Glycol
Diethylene Glycol							17.48	26.46	10.88	Diethylene Glycol
Methanol							20.01	30.06	12.43	Methanol
Ethanol							22.37	33.85	13.92	Ethanol
Isopropanol							24.31	36.80	15.13	Isopropanol
Propanol							28.29	42.81	17.61	Propanol
Azide							25.38	38.43	15.80	Azide

All columns operated under the recommended standard conditions of flow rate and temperature as typically recorded on the QC test data sheet.