Appendix A

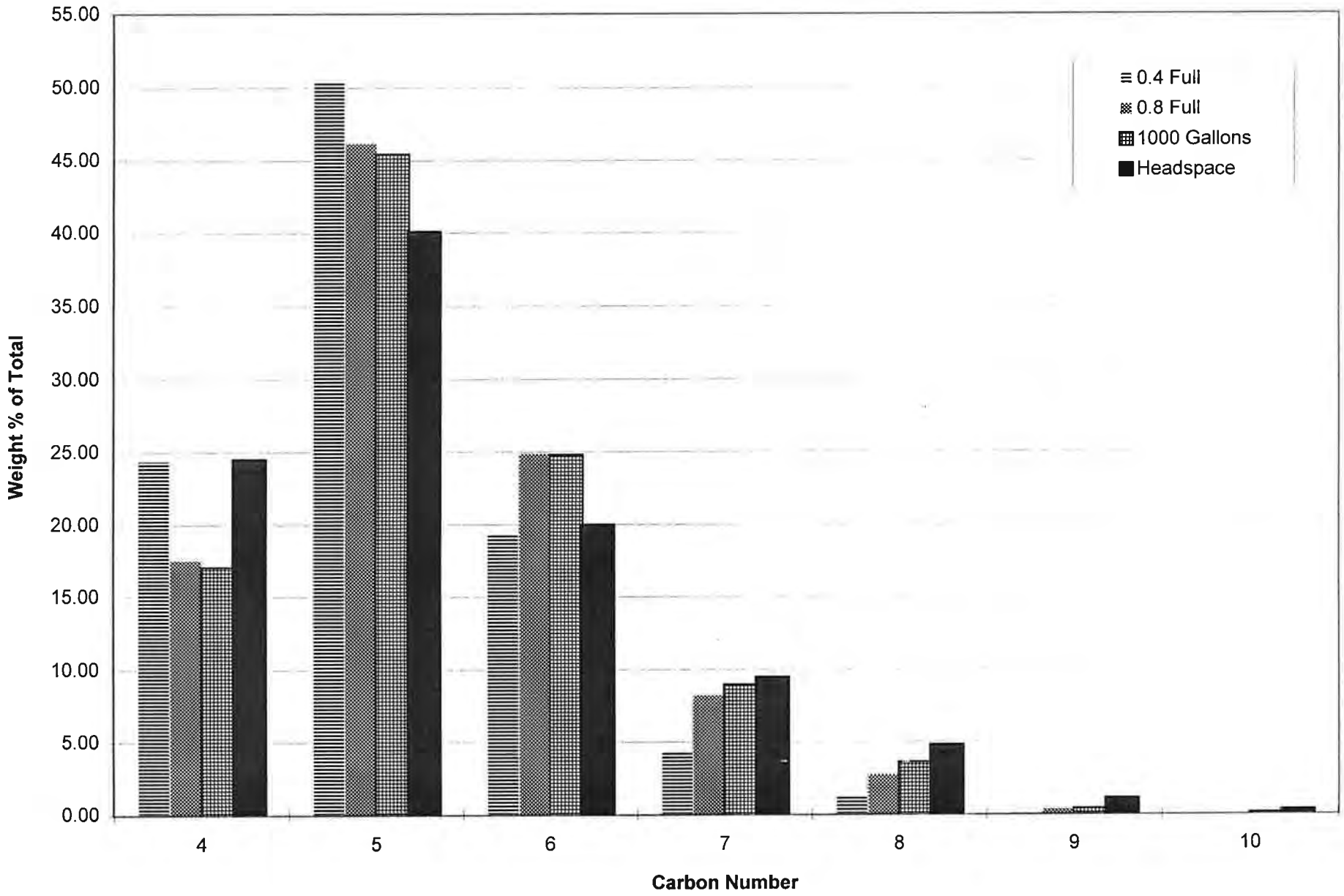
Data Analysis
Vapor Generation vs. Headspace

Blend	Component	LIQUID SAMPLE CONCENTRATIONS SE-30* method	LIQUID SAMPLE CONCENTRATIONS D4815 method	130F HEADSPACE CONCENTRATIONS Sample #1	130F HEADSPACE CONCENTRATIONS Sample #2	RESULTS FROM 130F VAPOR GENERATIONS Benchtop 40% Full	RESULTS FROM 130F VAPOR GENERATIONS Benchtop 80% Full	RESULTS FROM 130F VAPOR GENERATIONS 1000 Gallons
Base Gasoline	n-butane	3.69		23.71	23.27	23.57	16.93	16.15
	n-pentane	2.46		6.21	6.16	7.84	7.22	7.38
	isopentane	8.03		25.17	24.88	31.92	29.52	28.57
	n-hexane	2.05		2.12	2.14	1.88	2.58	2.57
	2M-pentane	4.35		5.81	5.83	5.94	7.45	7.47
	benzene	1.68		1.39	1.41	1.14	1.44	1.34
	toluene	9.23		3.35	3.51	1.18	2.33	2.69
	xylenes	9.92		1.4	1.5	0.25	0.59	0.88
MTBE	MTBE	14.57	14.9	21.21	21.16	23.8		
TAME	TAME	17.45	17.3	12.26	12.33	4.39		
DIPE	DIPE	17.67	16.7	18.17	17.82	14.15		
ETBE	ETBE	16.93	16.0	15.77	16.1	10.3		
Ethanol	Ethanol	10.32	10.1	13.26	15.87	11.18		
TBA	TBA	17.17	16.5	16.97	16.8	3.55		

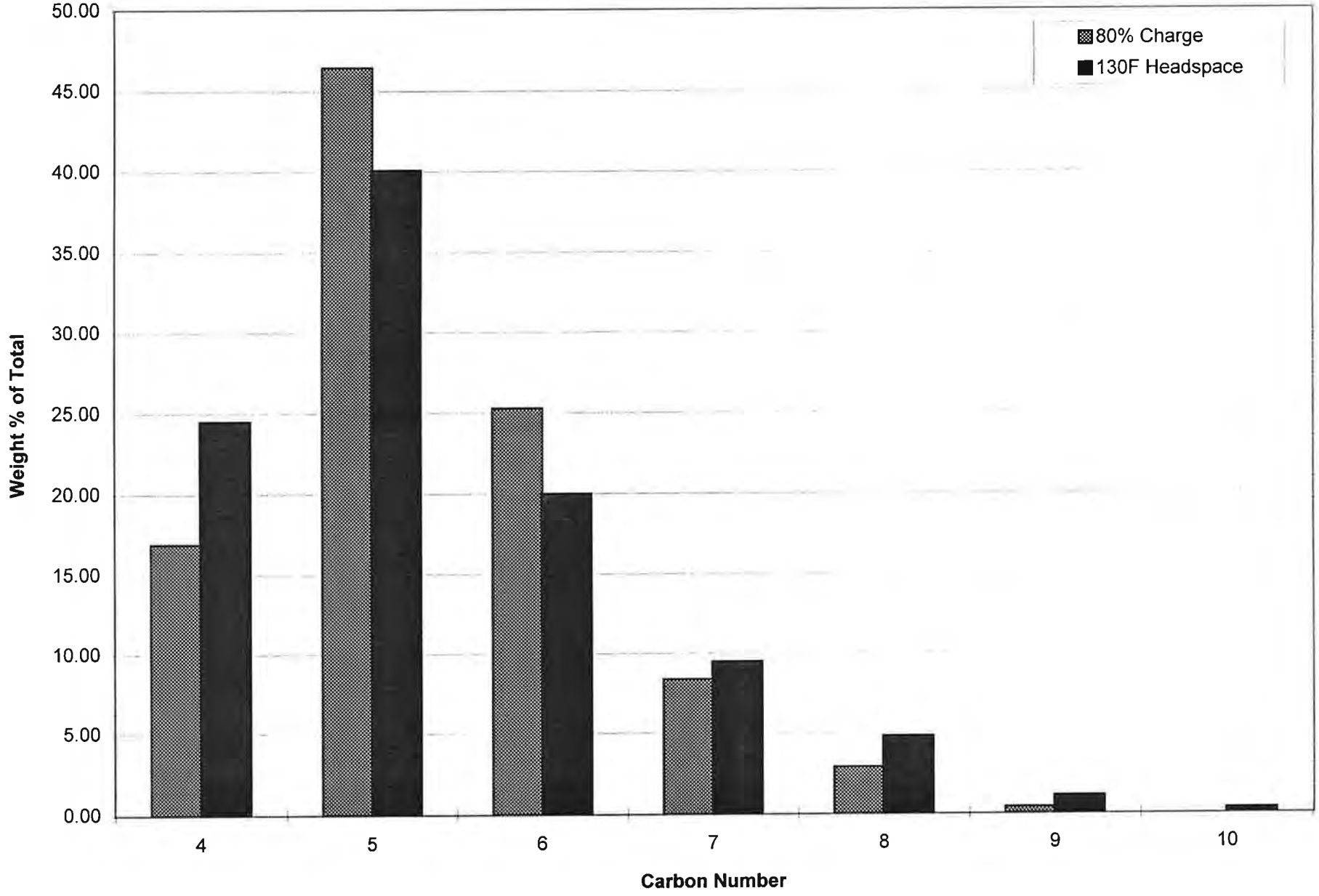
Results in Weight %
* = average for base gasoline

Blend	Blend RVP	Component	Component Boiling Point F	Component Blending RVP		RESULTS FROM 130F VAPOR GENERATIONS Liquid temp at 130F vapor temperature	Overhead at 130F Weight %	Mass balance loss
Base Gasoline	8.4	n-butane	31			40% - 164F	11.05%	0.81%
		n-pentane	97			80% - 159F	10.64%	0.63%
		isopentane	82					
		n-hexane	156					
		2M-pentane	140					
		benzene	176					
		toluene	231					
		xylenes	281					
MTBE	8.3	MTBE	131	8		162F	14.75%	0.75%
TAME	7.5	TAME	187	2.5		189F	14.29%	0.72%
DIPE	7.8	DIPE	155	5		168F	11.16%	0.72%
ETBE	7.7	ETBE	161	4		177F	12.92%	1.16%
Ethanol	9.4	Ethanol	173	18		148F	13.48%	2.46%
TBA	8.2	TBA	181	9		156F	11.80%	0.69%

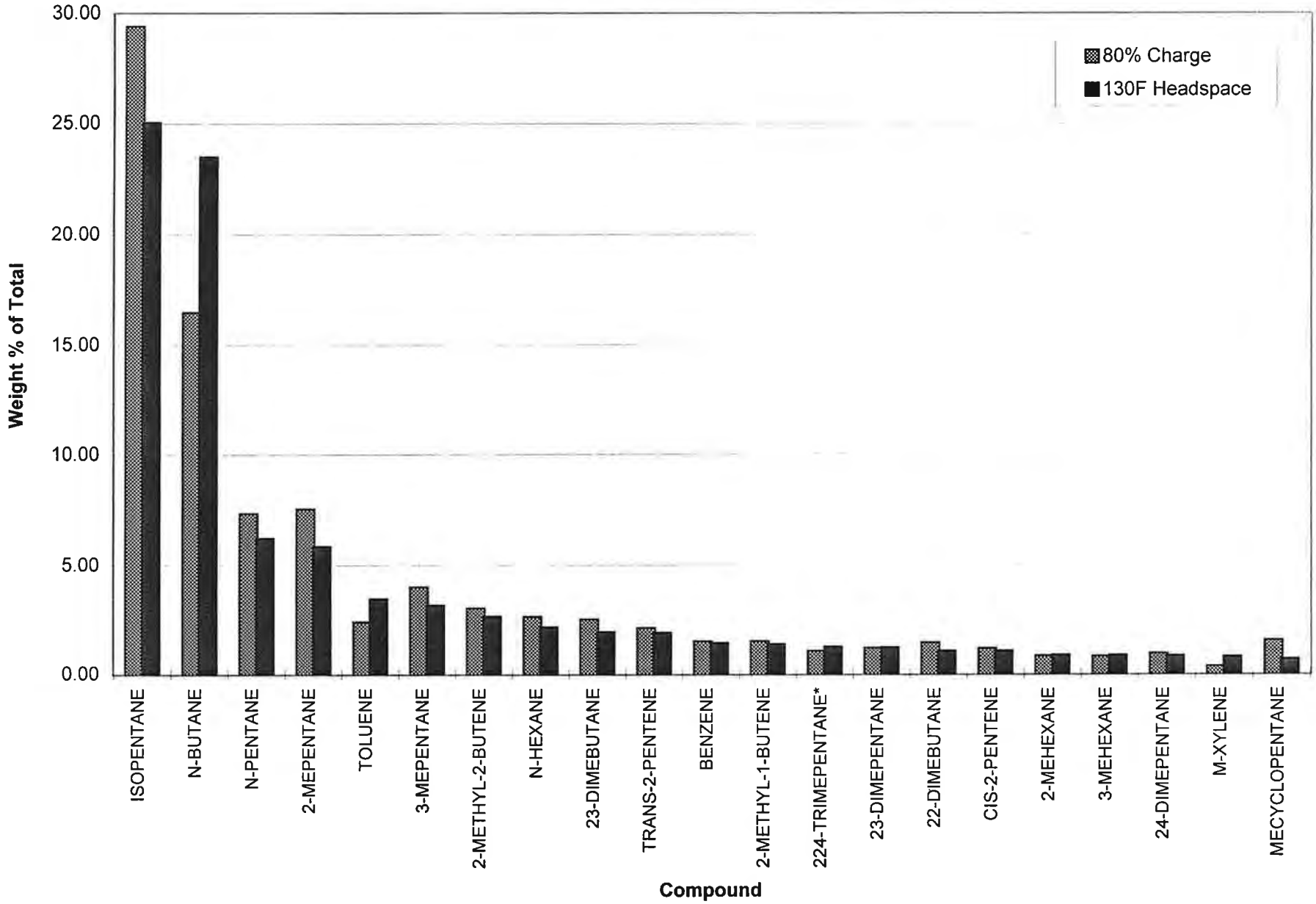
211(b) Baseline Gasoline: 130F Vapor Generation vs. 130F Headspace



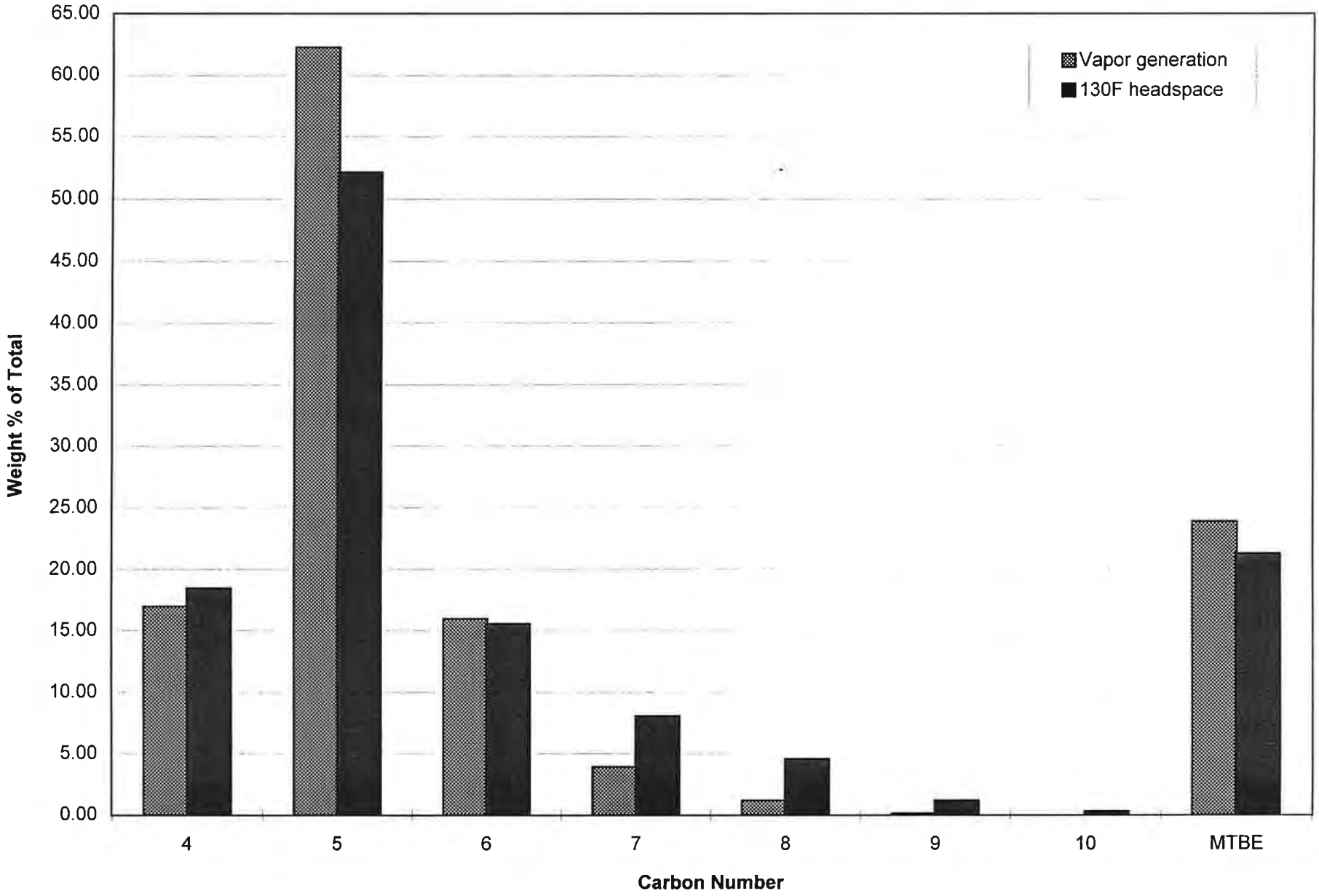
211(b) Base Gasoline: Vapor Generation (80% Charge/15% Collected) vs. 130F Headspace



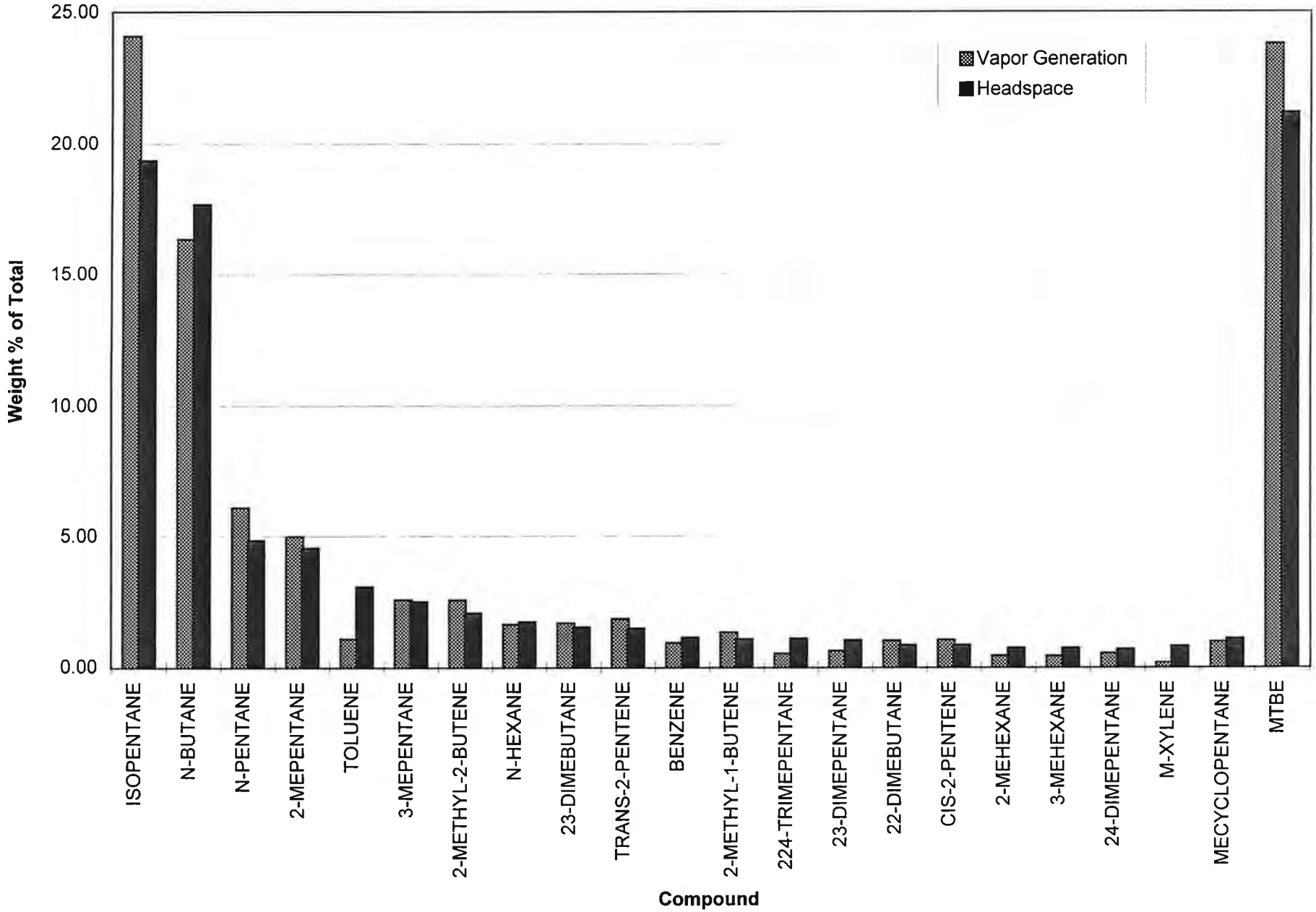
211(b) Base Gasoline: Vapor Generation (80% Charge/15% Collected) vs. 130F Headspace



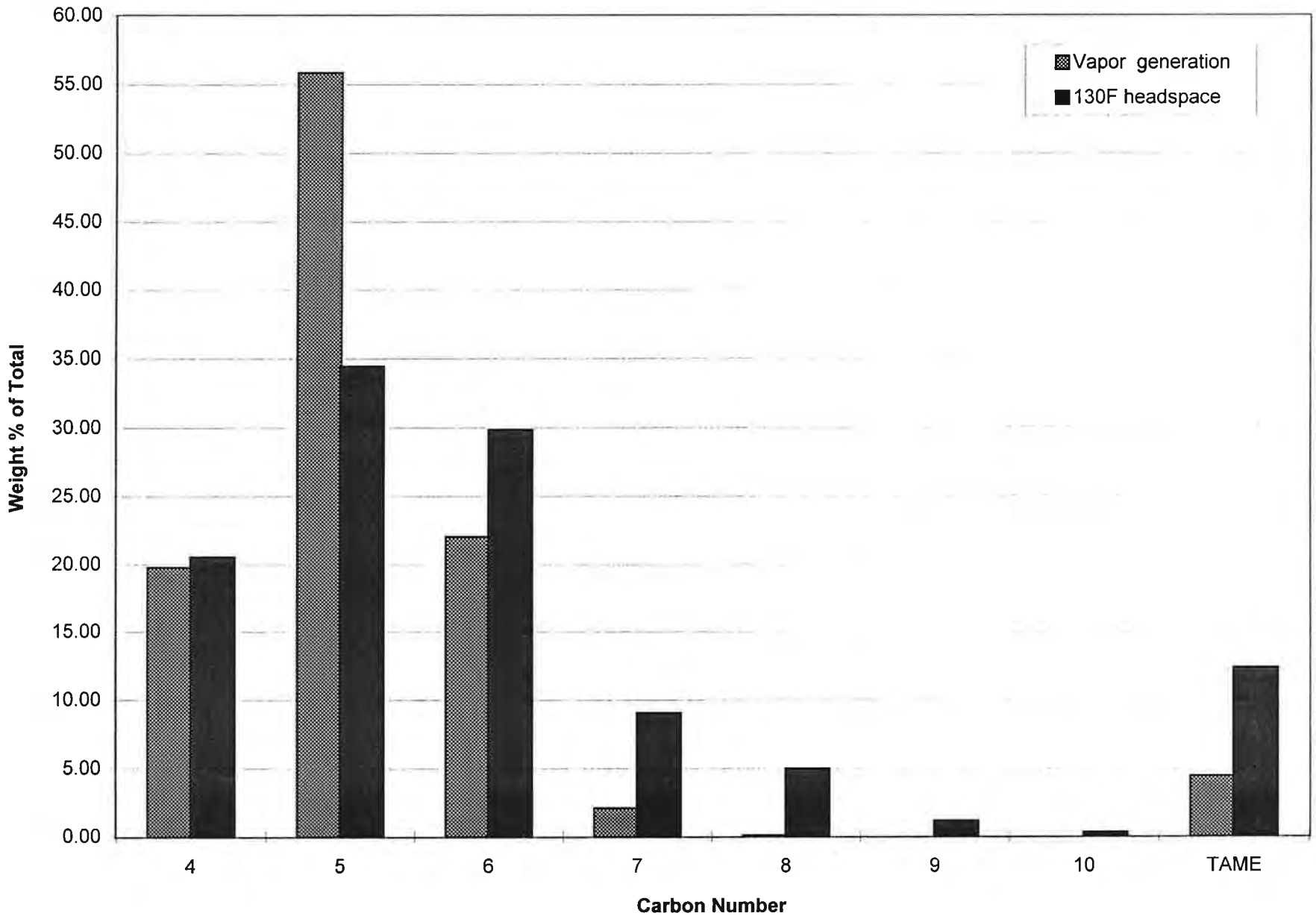
MTBE/Gasoline Blend: 130F Vapor Generation vs. 130F Headspace



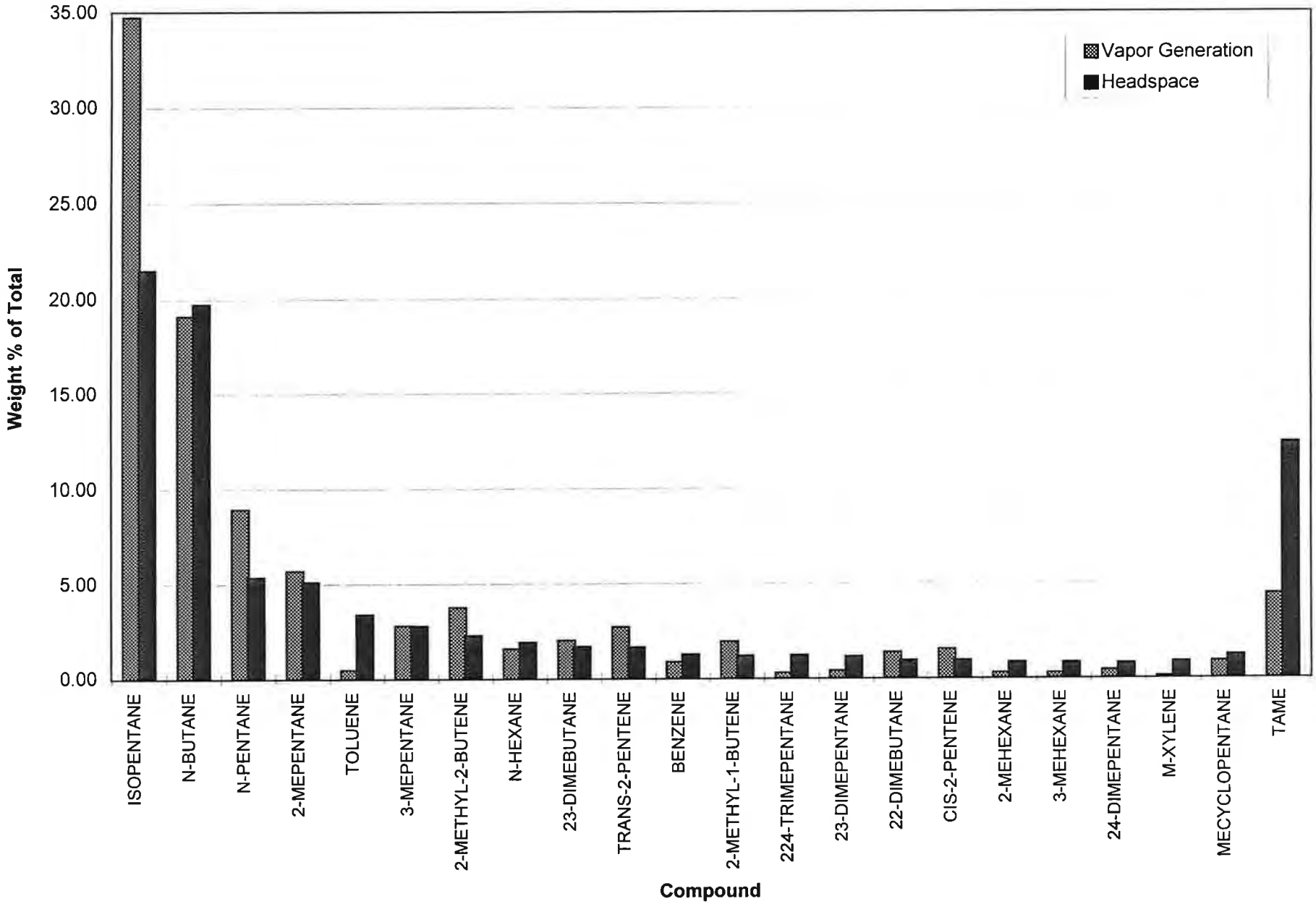
MTBE/Gasoline Blend: 130F Vapor Generation vs. 130F Headspace



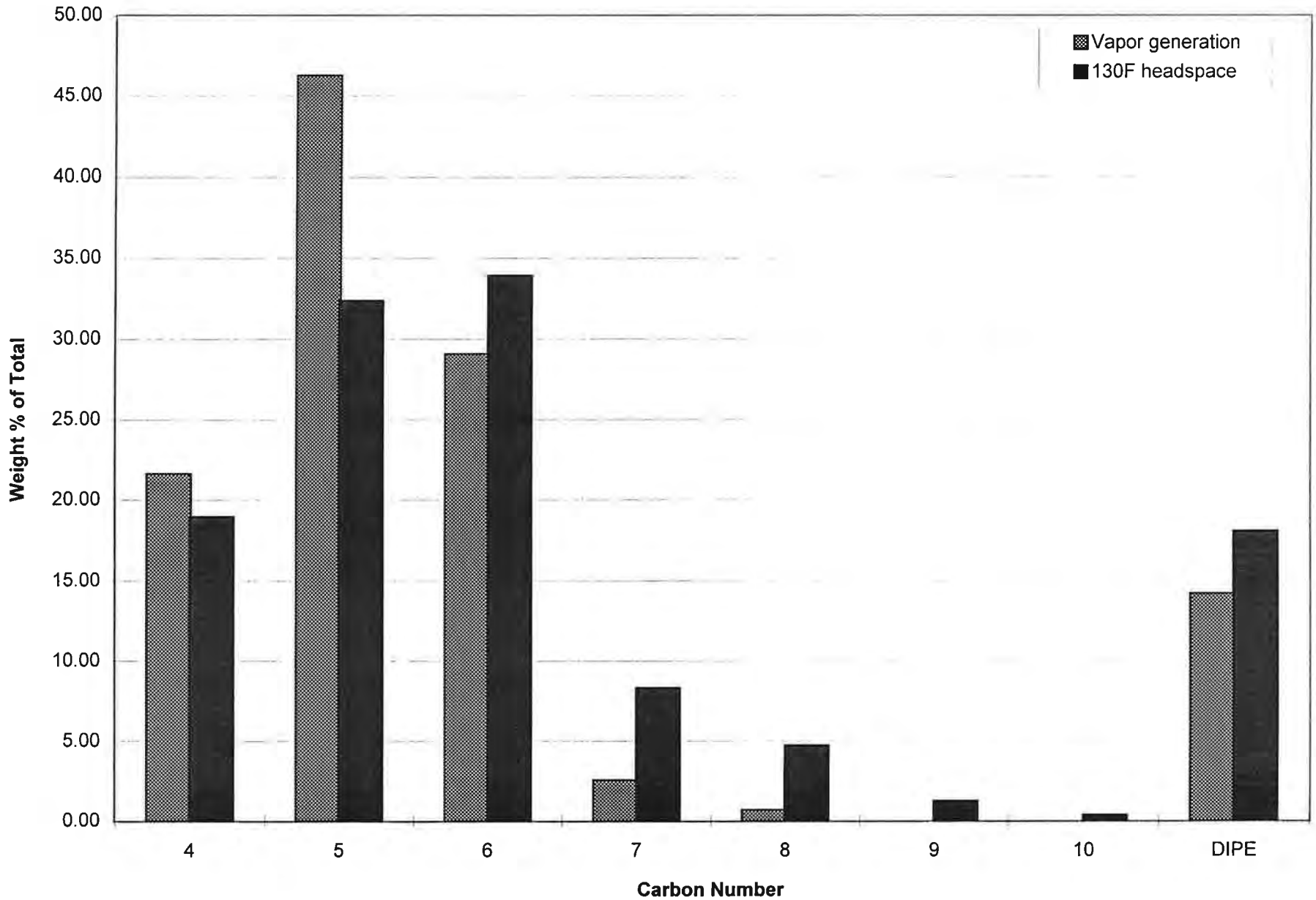
TAME/Gasoline Blend: 130F Vapor Generation vs. 130F Headspace



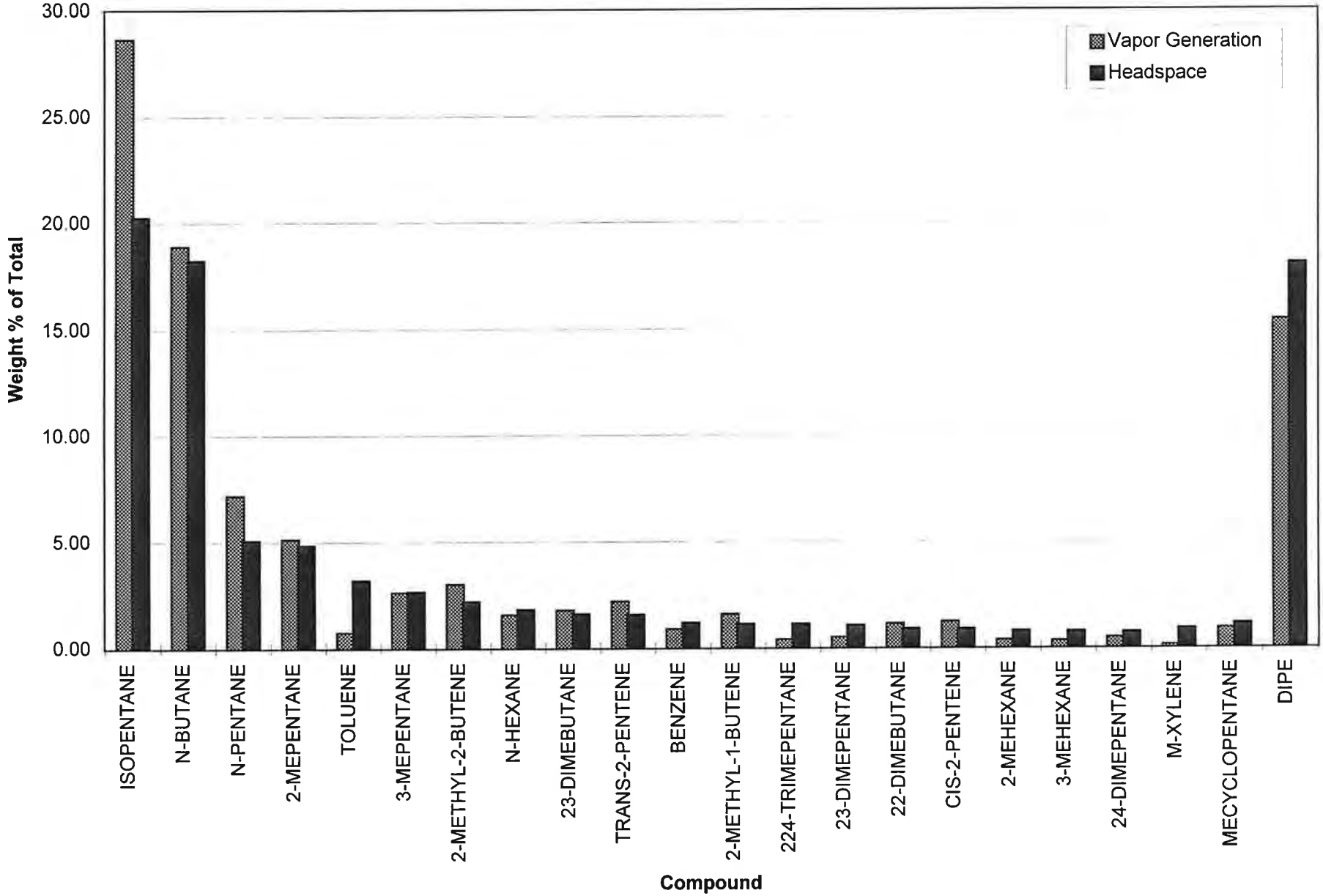
TAME/Gasoline Blend: 130F Vapor Generation vs. 130F Headspace



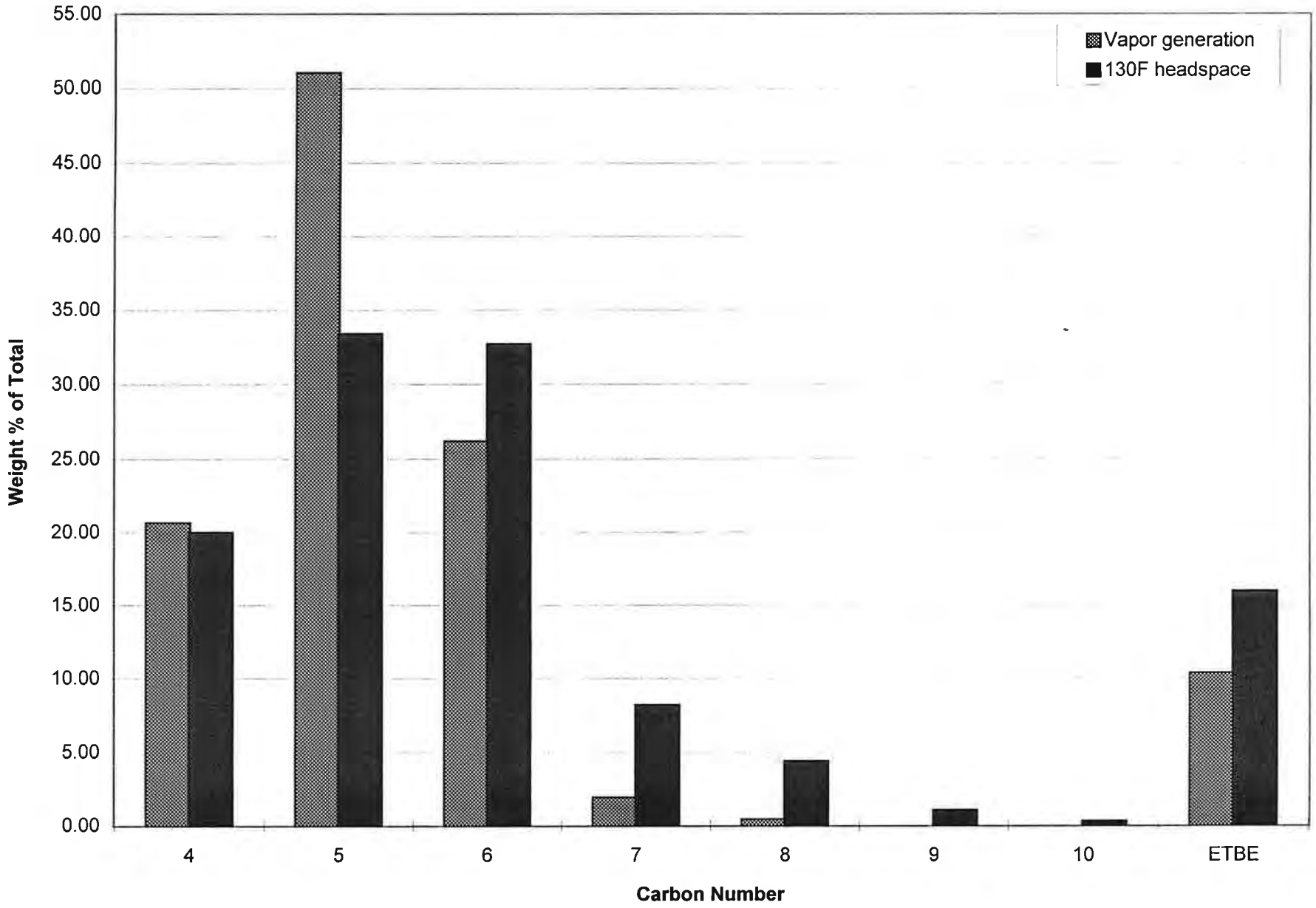
DIPE/Gasoline Blend: 130F Vapor Generation vs. 130F Headspace



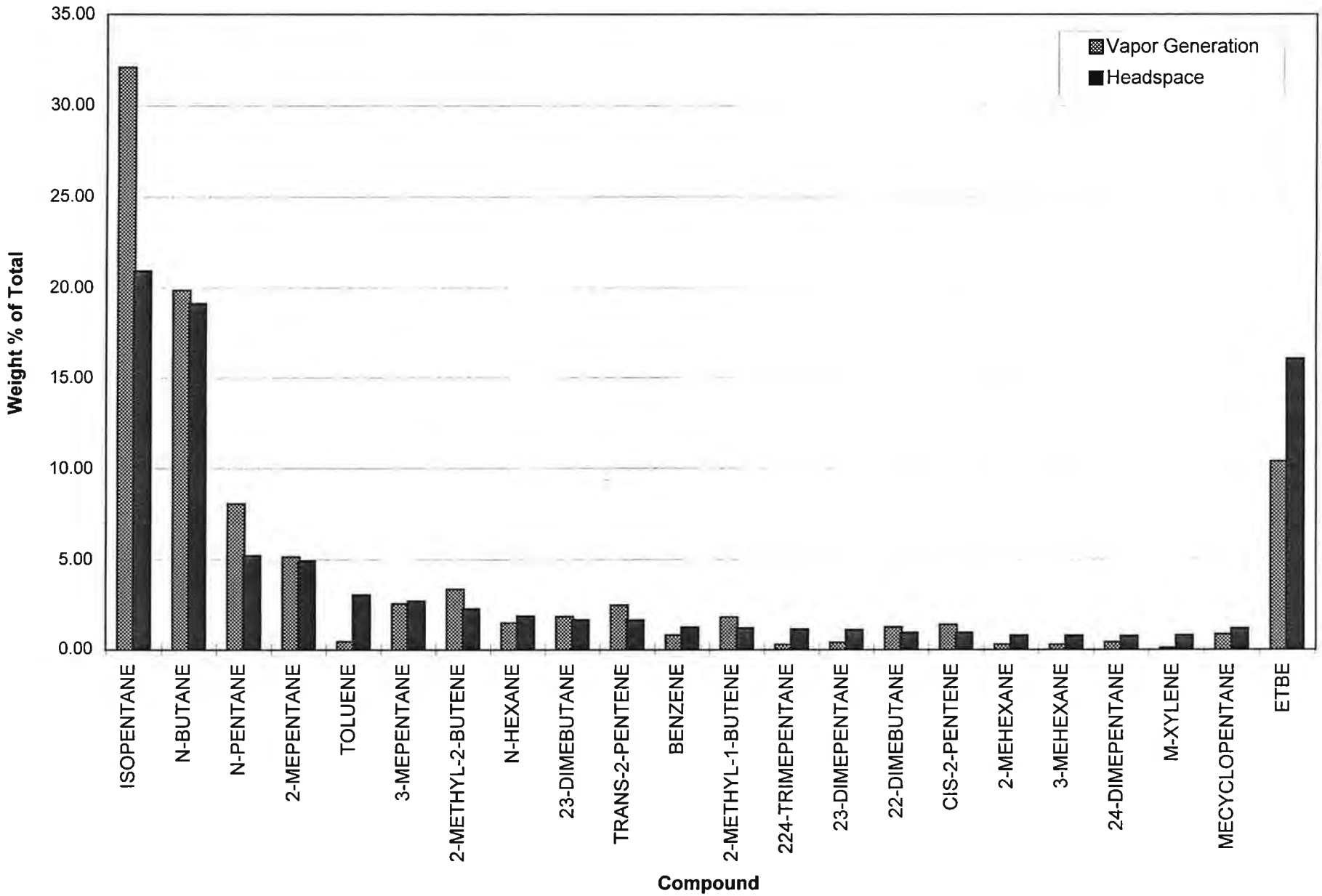
DIPE/Gasoline Blend: 130F Vapor Generation vs. 130F Headspace



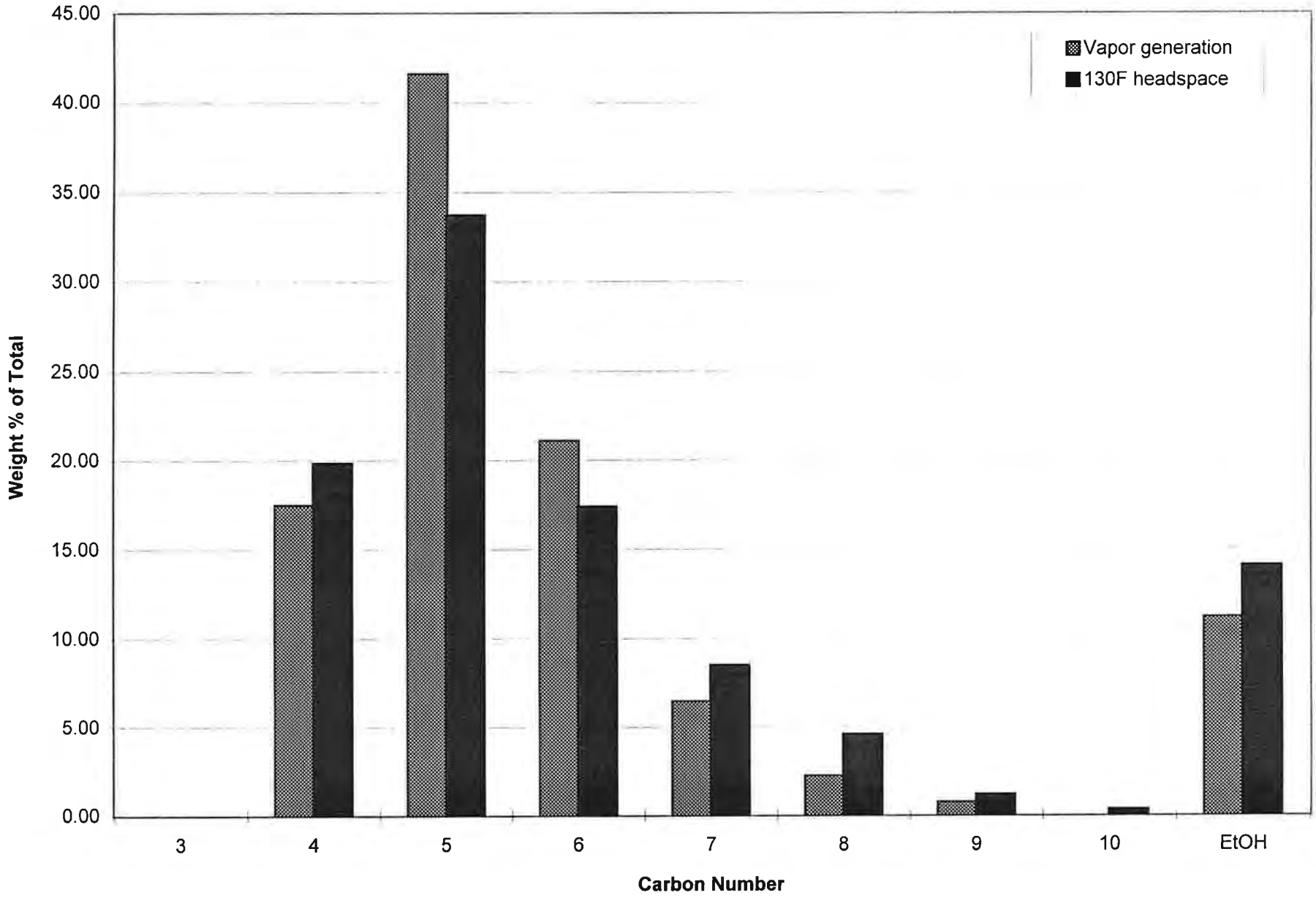
ETBE/Gasoline Blend: 130F Vapor Generation vs. 130F Headspace



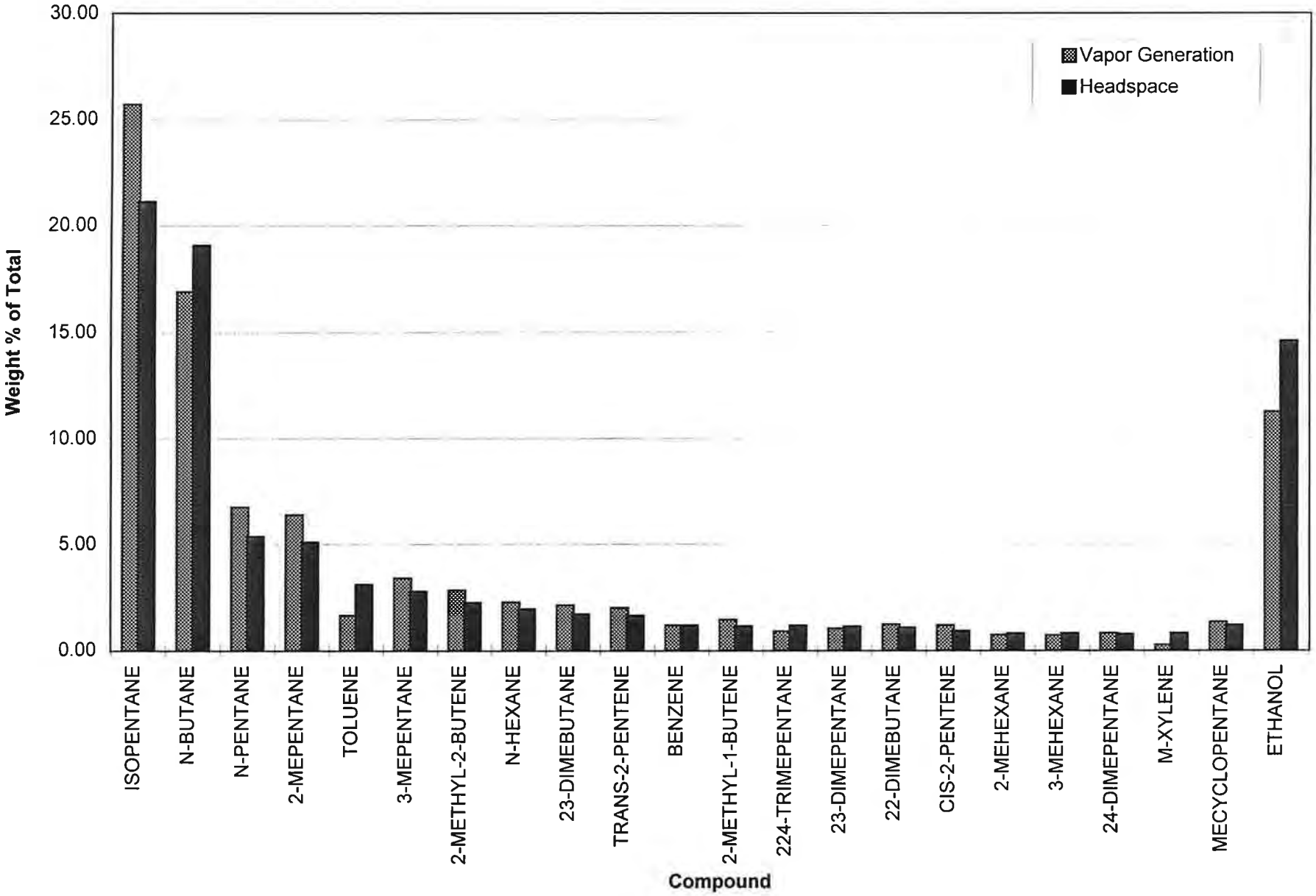
ETBE/Gasoline Blend: 130F Vapor Generation vs. 130F Headspace



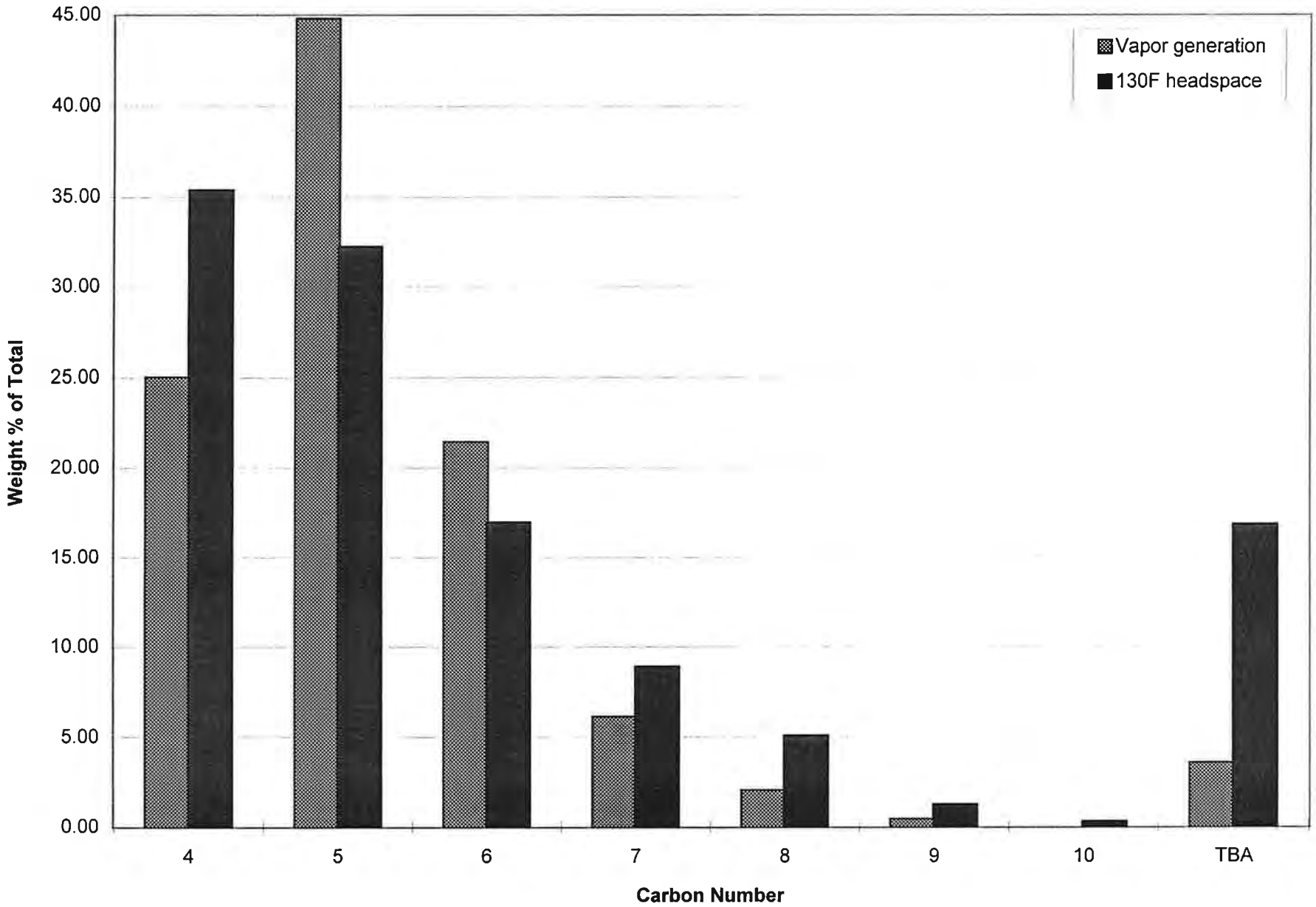
Ethanol/Gasoline Blend: 130F Vapor Generation vs. 130F Headspace



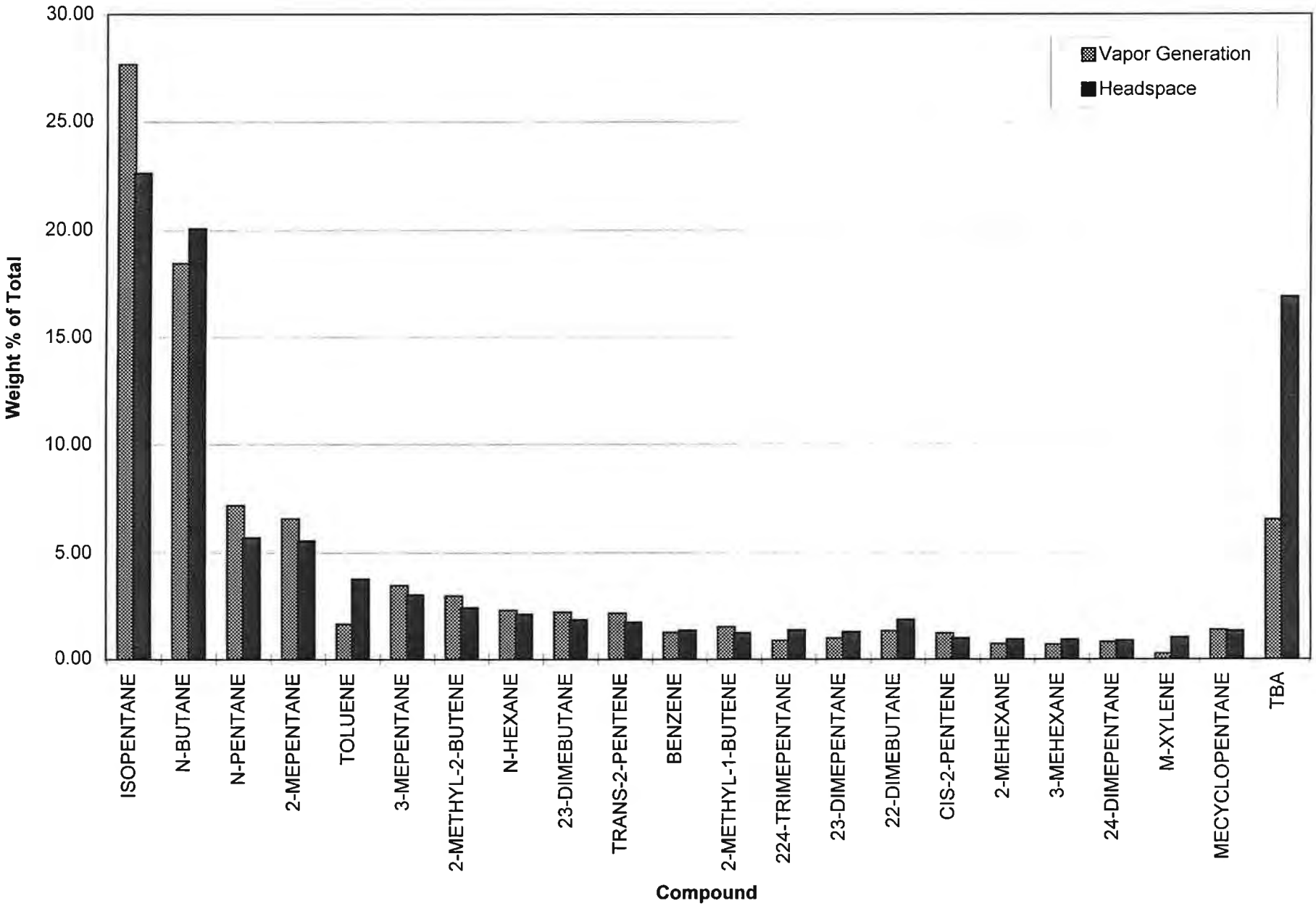
Ethanol/Gasoline Blend: 130F Vapor Generation vs. 130F Headspace



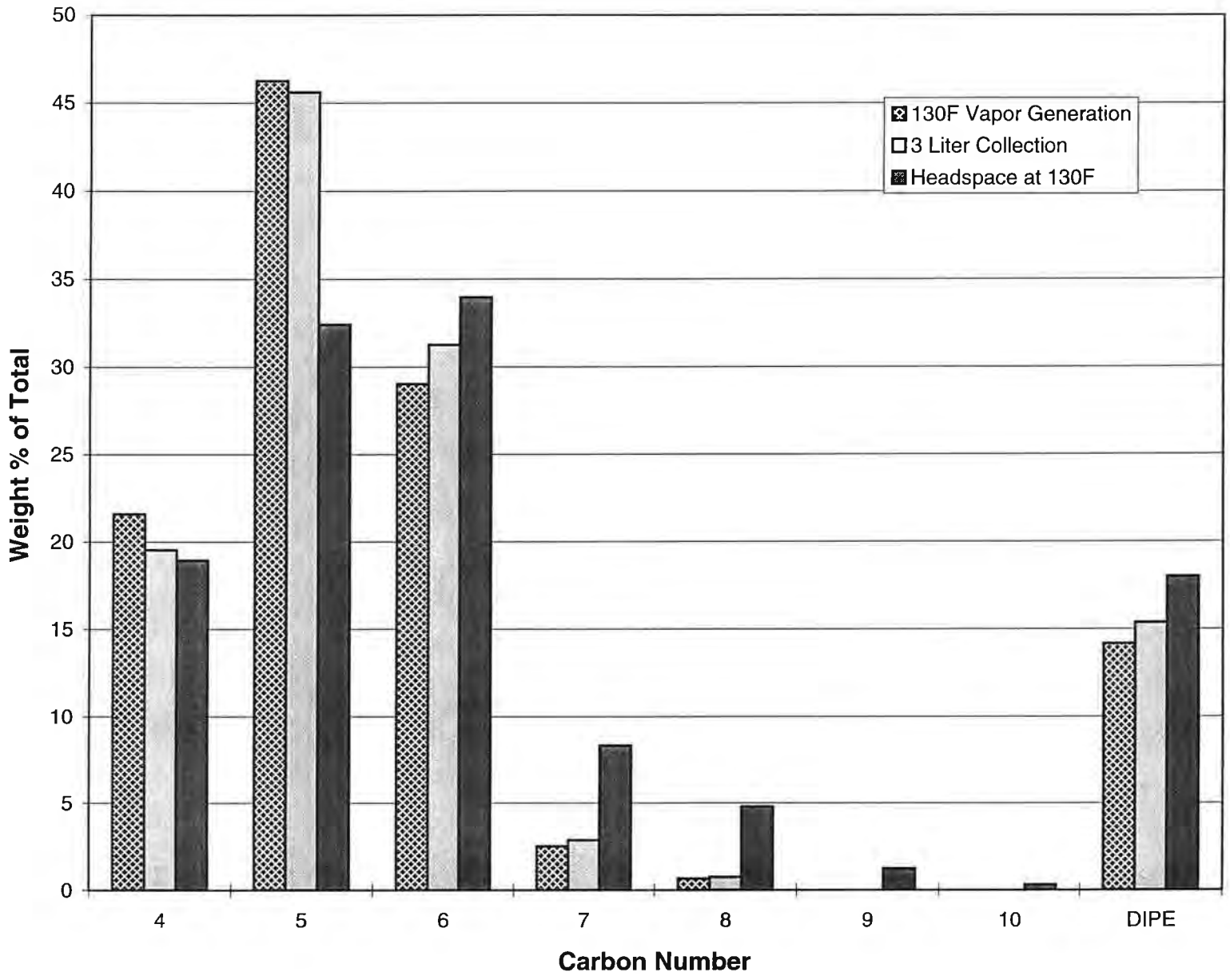
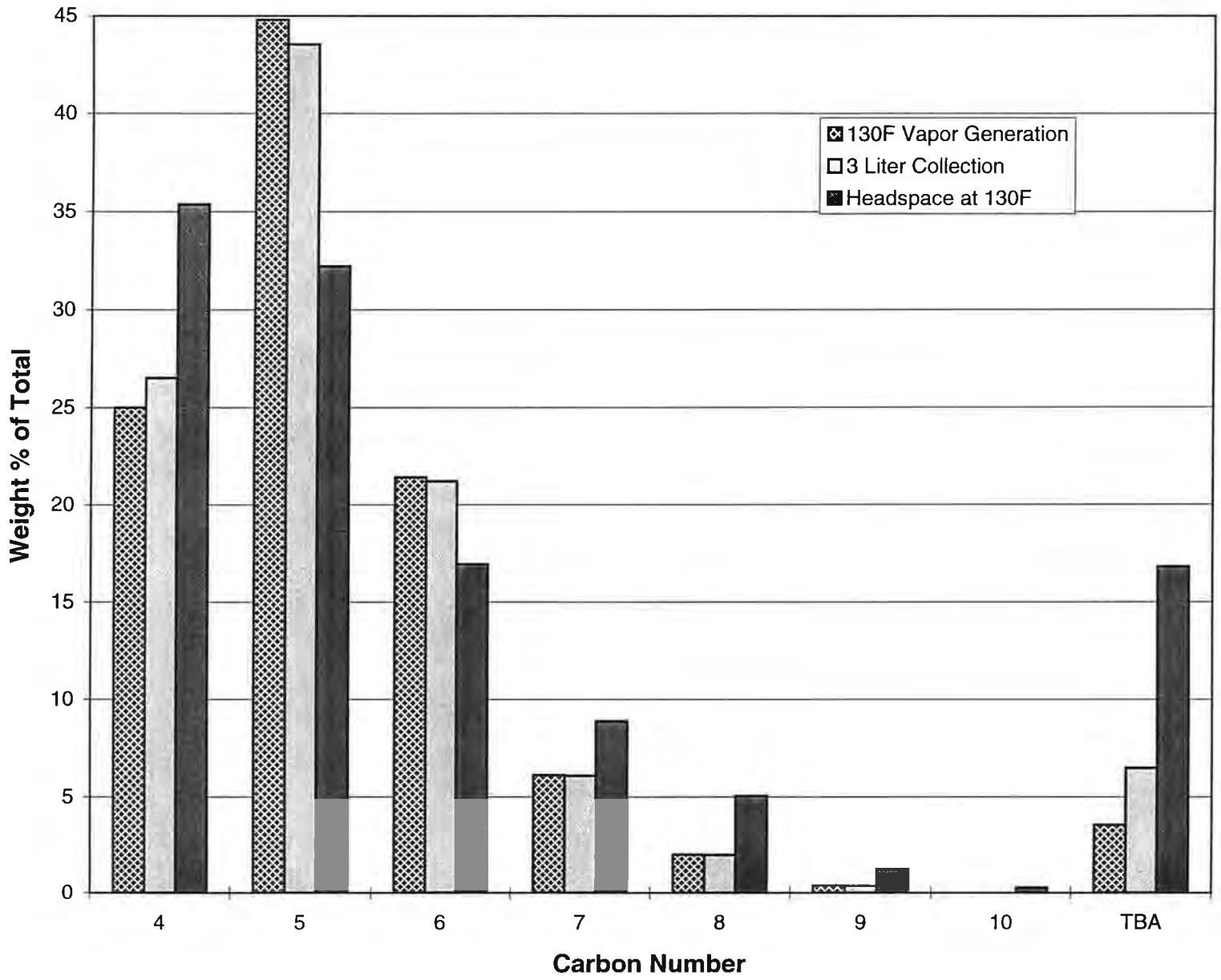
TBA/Gasoline Blend: 130F Vapor Generation vs. 130F Headspace



TBA/Gasoline Blend: 130F Vapor Generation vs. 130F Headspace



DIPE/Gasoline Blend: Impact of Additional Sample Collection



TBA/Gasoline Blend: Impact of Additional Sample Collection