

**COMPOUNDS DETECTABLE WITH PHOTOVAC PIDs, FIDs
AND PORTABLE GAS CHROMATOGRAPHS**

<u>COMPOUND</u>	<u>IONIZATION ANALYZER</u>			<u>COMPOUND</u>	<u>IONIZATION ANALYZER</u>		
	<u>POTENTIAL(eV)</u>	<u>GC</u>	<u>PID FID</u>		<u>POTENTIAL(eV)</u>	<u>GC</u>	<u>PID FID</u>
Acetaldehyde	10.21	0	0 0	3-Bromopropene	9.70	0	0 0
Acetic Acid	10.37		0 0	2-Bromothiophene	8.63	0	0 0
Acetone	9.69	0	0 0	o-Bromotoluene	8.79	0	0 0
Acetonitrile	12.20	0	0	m-Bromotoluene	8.81	0	0 0
Acetylene*	11.41	0	0 0	p-Bromotoluene	8.67	0	0 0
Acetylene Dichloride	9.80	0	0	1,3-Butadiene	9.07	0	0 0
Acetylene Tetrabromide	n.p.		0 0	2,3-Butadione	9.23	0	0 0
Acrolein	10.10	0	0 0	n-Butanal	9.83	0	0 0
Acrylonitrile	10.91	0	0 0	2-Butanal	9.73	0	0 0
Allene	9.83	0	0 0	n-Butane	10.63	0	0 0
Allyl Alcohol	9.67	0	0 0	2-Butanone	9.53	0	0 0
Allyl Chloride	10.20	0	0 0	iso-Butanol	10.47	0	0 0
Aminoethanol	9.87	0	0 0	sec-Butanol	10.23	0	0 0
2-Aminopyridine	8.34		0 0	tert-Butanol	10.25	0	0 0
Ammonia	10.15	0	0	1-Butene	9.58	0	0 0
n-Amyl Acetate	n.p.	0	0 0	cis-2-Butene	9.13	0	0 0
sec-Amyl Acetate	n.p.	0	0 0	trans-2-Butene	9.13	0	0 0
Aniline	7.70		0 0	n-Butyl Acetate	10.01	0	0 0
Arsine	9.89	0	0	sec-Butyl Acetate	9.91	0	0 0
Benzaldehyde	9.53	0	0 0	t-Butyl Acetate	9.90	0	0 0
Benzene	9.25	0	0 0	n-Butyl Alcohol	10.04	0	0 0
Benzenethiol	8.33	0	0 0	n-Butylamine	8.71		0 0
Benzyl Chloride	9.14	0	0 0	i-Butylamine	8.70		0 0
Bromobenzene	8.98	0	0 0	s-Butylamine	8.70		0 0
1-Bromobutane	10.13	0	0 0	t-Butylamine	8.64		0 0
2-Bromobutane	9.98	0	0 0	n-Butylbenzene	8.69	0	0 0
1-Bromobutanone	9.54	0	0 0	i-Butylbenzene	8.68	0	0 0
1-Bromo-2-chloroethane	10.63	0	0 0	t-Butylbenzene	8.68	0	0 0
Bromochloromethane	10.77	0	0	Butyl Cellosolve®	8.68	0	0 0
Bromodichloromethane	10.59	0	0 0	i-Butyl Ethanoate	9.95	0	0 0
1-Bromo-3-chloropropane	n.p.	0	0 0	n-Butyl Mercaptan	9.15	0	0 0
Bromoethane	10.28	0	0 0	t-Butyl Mercaptan	9.03	0	0 0
Bromoethene	9.80	0	0 0	iso-Butyl Mercaptan	9.12	0	0 0
Bromoform	10.48	0	0 0	i-Butyl Methanoate	10.46	0	0 0
1-Bromo-3-hexanone	9.26	0	0 0	p-tert-Butyltoluene	8.35	0	0 0
Bromomethane (Methyl Bromi	10.53	0	0 0	1-Butyne	10.18	0	0 0
Bromomethyl Ethyl Ether	10.08	0	0 0	2-Butyne	9.85	0	0 0
1-Bromo-2-methylpropane	10.09	0	0 0	n-Butyraldehyde	9.86	0	0 0
2-Bromo-2-methylpropane	9.89	0	0 0	Carbon Disulfide	10.13	0	0
1-Bromopentane	10.10	0	0 0	Carbon Tetrachloride*	11.28	0	0 0
1-Bromopropane	10.18	0	0 0	Cellosolve Acetate	n.p.	0	0 0

COMPOUND	IONIZATION ANALYZER			COMPOUND	IONIZATION ANALYZER				
	POTENTIAL(eV)	GC	PID		FID	POTENTIAL(eV)	GC	PID	FID
2-Bromopropane	10.08	0	0	0	Chloroacetaldehyde	10.16	0	0	0
1-Bromopropene	9.30	0	0	0	Chlorobenzene	9.07	0	0	0
2-Bromopropene	10.06	0	0	0	Chlorobromomethane	10.77	0		0
1-Chloro-2-bromoethane	10.63	0	0	0	1,3-Dibromobutane	n.p.	0	0	0
1-Chlorobutane	10.67	0	0	0	1,4-Dibromobutane	n.p.	0	0	0
2-Chlorobutane	10.65	0	0	0	Dibromochloromethane	10.59	0	0	0
1-Chlorobutanone	9.54	0	0	0	Dibromochloropropane	n.p.	0	0	0
1-Chloro-2,3-epoxypropane	10.60	0	0	0	1,1-Dibromoethane	10.19	0	0	0
Chloroethane (Ethyl Chloride)	10.97	0		0	Dibromomethane	10.49	0	0	0
Chloroethene (Vinyl Chloride)	10.00	0	0	0	1,2-Dibromopropane	10.26	0	0	0
2-Chloroethoxyethene	10.61	0	0	0	2,2-Dibromopropane	n.p.	0	0	0
1-Chloro-2-fluorobenzene	9.16	0	0	0	Dibutylamine	7.69		0	0
1-Chloro-3-fluorobenzene	9.21	0	0	0	1,2-Dichlorobenzene	9.07	0	0	0
cis-1-Chloro-2-fluoroethene	9.87	0	0	0	1,3-Dichlorobutane*	n.p.	0	0	0
trans-1-Chloro-2-fluoroethene	9.87	0	0	0	1,4-Dichlorobutane*	n.p.	0	0	0
Chloroform*	11.37	0	0	0	cis-1,4-Dichloro-2-butene	n.p.	0	0	0
o-Chloriodobenzene	8.35	0	0	0	2,2-Dichlorobutane*	n.p.	0	0	0
Chloromethylethyl Ether	10.08	0	0	0	2,3-Dichlorobutane*	n.p.	0	0	0
Chloromethylmethyl Ether	10.25	0	0	0	3,4-Dichlorobutane*	n.p.	0	0	0
1-Chloro-2-methylpropane	10.66	0	0	0	1,1-Dichloroethane*	11.06	0	0	0
Chloroprene	8.83	0	0	0	1,2 Dichloroethane (Ethylene Dichloride)†	11.04	0	0	0
1-Chloropropane*	10.82	0	0	0	cis-1,2-Dichloroethene	9.65	0	0	0
2-Chloropropane*	10.78	0	0	0	trans-1,2-Dichloroethene	9.66	0	0	0
3-Chloropropene	10.04	0	0	0	1,1-Dichloroethene	10.00	0	0	0
p-Chlorostyrene	n.p.	0	0	0	Dichloroethyl Ether	n.p.	0	0	0
2-Chlorothiophene	8.68	0	0	0	Dichloromethane (Methylene Chloride)*	11.35	0	0	0
o-Chlorotoluene	8.83	0	0	0	1,2-Dichloropropane*	10.87	0	0	0
m-Chlorotoluene	8.83	0	0	0	1,3-Dichloropropane*	10.85	0	0	0
p-Chlorotoluene	8.70	0	0	0	1,1-Dichloropropanone	9.71	0	0	0
o-Cresol	8.48		0	0	2,3-Dichloropropene	9.82	0	0	0
m-Cresol	8.48		0	0	Dicyclopentadiene	7.74	0	0	0
p-Cresol	8.48		0	0	Diethoxymethane	9.70	0	0	0
Cumene (i-Propyl Benzene)	8.75	0	0	0	Diethylamine	8.01		0	0
Crotonaldehyde	9.73	0	0	0	Diethylaminoethanol	8.58		0	0
Cyanoethene*	10.91	0	0	0	Diethyl Ether	9.53	0	0	0
Cyanogen Bromide*	10.91	0	0		Diethyl Ketone	9.32	0	0	0
3-Cyanopropene	10.39	0	0	0	Diethyl Sulfide	8.43	0	0	0
Cyclobutane	10.50	0	0	0	1,2-Difluorobenzene	9.31	0	0	0
Cyclohexane	9.98	0	0	0	1,4-Difluorobenzene	9.15	0	0	0
Cyclohexanol	10.00	0	0	0	Difluorodibromomethane*	11.18	0		0
Cyclohexanone	9.14	0	0	0	Difluoromethylbenzene	9.45	0	0	0
Cyclohexene	8.95	0	0	0	Diiodomethane	9.34	0	0	0
Cyclo-octatetraene	7.99	0	0	0	Diisobutyl Ketone	9.04	0	0	0
Cyclopentadiene	8.55	0	0	0	Diisopropylamine	7.73		0	0

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	POTENTIAL(eV)	GC	PID		FID	POTENTIAL(eV)	GC	PID	FID
Cyclopentane	10.52	0	0	0	1,1-Dimethoxyethane	9.65	0	0	0
Cyclopentanone	9.26	0	0	0	Dimethoxymethane	10.00	0	0	0
Cyclopentene	9.01	0	0	0	Dimethylamine	8.24	0	0	
Cyclopropane	10.06	0	0	0	Dimethylaniline	7.13	0	0	
2-Decanone	9.40	0	0	0	2,3-Dimethylbutadiene	8.72	0	0	0
Diacetone Alcohol	n.p		0	0	2,2-Dimethylbutane	10.06	0	0	0
2,2-Dimethylbutan-3-one	9.18	0	0	0	mono-Fluorobenzene	9.20	0	0	0
2,3-Dimethylbutane	10.02	0	0	0	mono-Fluoroethene	10.37	0	0	0
2,3-Dimethyl-2-butene	8.30	0	0	0	mono-Fluoromethanal	11.40	0	0	0
3,3-Dimethylbutanone	9.17	0	0	0	Fluorotribromomethane	10.67	0	0	0
Dimethyl Disulfide	8.46	0	0	0	o-Fluorotoluene	8.92	0	0	0
Dimethyl Ether	10.00	0	0	0	m-Fluorotoluene	8.92	0	0	0
Dimethylformamide	9.45		0	0	p-Fluorotoluene	8.79	0	0	0
3,5-Dimethyl-4-heptanone	9.04	0	0	0	Formaldehyde	10.88	0		
1,1-Dimethylhydrazine	8.88		0	0	Freon 11 (Fluorotrichloromethane)	11.77	0		0
2,2-Dimethyl-3-pentanone	8.98	0	0	0	Freon 12 (Dichlorodifluoromethane)	12.91	0		0
2,2-Dimethylpropane	10.35	0	0	0	Freon 13 (Chlorotrifluoromethane)	12.91	0		0
Dimethyl Sulfide	8.69	0	0	0	Freon 13 B-1 (Bromotrifluoromethane)	12.08	0		0
Di-n-propyl Disulfide	8.27	0	0	0	Freon 14 (Carbon Tetrafluoride)	16.25	0		0
Di-n-propyl Ether	9.27	0	0	0	Freon 21 (Dichlorofluoromethane)	12.00	0		0
Di-i-propyl Ether	9.20	0	0	0	Freon 22 (Chlorodifluoromethane)	12.45	0		0
Di-n-propylamine	7.84		0	0	Freon 113 (1,2-Dichlorotrifluoroethane)	11.78	0		0
Di-n-propyl Sulfide	8.30	0	0	0	Furan	8.89	0	0	0
1,4-Dioxane	9.41	0		0	Furfuryl Alcohol	n.p.	0	0	0
Epichlorohydrin	10.60	0	0	0	Furfural	9.21	0	0	0
Ethane*	11.65	0	0	0	n-Heptane	10.07	0	0	0
Ethanol	10.62	0	0	0	2-Heptanone	9.33	0	0	0
Ethanolamine	9.87		0	0	4-Heptanone	9.12	0	0	0
Ethanethiol (Ethyl Mercaptan)	9.29	0	0	0	n-Hexane	10.18	0	0	0
Ethene (Ethylene)	10.52	0	0	0	Hexanone	n.p.	0	0	0
Ethyl Acetate	10.11	0	0	0	2-Hexanone	9.44	0	0	0
Ethyl Acrylate	n.p.	0	0	0	1-Hexene	9.46	0	0	0
Ethylamine	8.86		0	0	sec-Hexyl Acetate	n.p.		0	0
Ethyl Amyl Ketone	9.10	0	0	0	Hydrazine	n.p.	0	0	0
Ethylbenzene	8.76	0	0	0	Hydrogen Selenide	9.88	0	0	
Ethyl Bromide	10.29	0	0	0	Hydrogen Sulfide	10.46	0	0	
Ethyl Butyl Ketone	9.02	0	0	0	Hydrogen Telluride	9.14	0	0	
Ethyl Chloride	11.01	0		0	Iodobenzene	8.73	0	0	0
Ethyl Chloroacetate	10.20	0	0	0	1-Iodobutane	9.21	0	0	0
Ethyl Ethanoate	10.10	0	0	0	2-Iodobutane	9.09	0	0	0
Ethyl Ether	9.41	0	0	0	Iodoethane (Ethyl Iodide)	9.33	0	0	0
Ethyl Disulfide	8.27	0	0	0	Iodomethane (Methyl Iodide)	9.54	0	0	0
Ethylene Chlorohydrin	10.90	0	0	0	1-Iodo-2-methylpropane	9.18	0	0	0
Ethylene Dibromide (EDB)	10.37	0	0	0	1-Iodo-2-methylpropane	9.02	0	0	0

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	POTENTIAL(eV)	GC	PID		FID	POTENTIAL(eV)	GC	PID	FID
Ethylene Oxide	10.56	0	0	0	1-Iodopentane	9.19	0	0	0
Ethyl Formate	10.61	0	0	0	1-Iodopropane	9.26	0	0	0
Ethyl Iodide	9.33	0	0	0	2-Iodopropane	9.17	0	0	0
Ethyl Mercaptan	9.29	0	0	0	o-Iodotoluene	8.62	0	0	0
Ethyl Methanoate	10.61	0	0	0	m-Iodotoluene	8.61	0	0	0
Ethyl Isothiocyanate	9.14	0	0	0	p-Iodotoluene	8.50	0	0	0
Ethyl Methyl Sulfide	8.55	0	0	0	Isoamyl Acetate	9.90	0	0	0
Ethyl Propanoate	10.00	0	0	0	Isoamyl Alcohol	10.16	0	0	0
Ethyl Trichloroacetate	10.44	0	0	0	Isobutane	10.57	0	0	0
Isobutylamine	8.70	0	0	0	Methyl Isobutyl Ketone (MIBK)	9.30	0	0	0
Isobutyl Acetate	9.97	0	0	0	Methyl Isobutyrate	9.98	0	0	0
Isobutyl Alcohol	10.47	0	0	0	Methyl Isocyanate	10.67	0	0	0
Isobutyl Formate	10.46	0	0	0	1-Methyl-4-isopropylbenzene	n.p.	0	0	0
Isobutylene	9.43	0	0	0	Methyl Isopropyl Ketone	9.32	0	0	0
Isobutyraldehyde	9.74	0	0	0	Methyl Mercaptan (Methanethiol)	9.44	0	0	0
Isopentane	10.32	0	0	0	Methyl Methacrylate	9.74	0	0	0
Isoprene	8.85	0	0	0	Methyl Methanoate	10.82	0	0	0
Isopropyl Acetate	9.99	0	0	0	2-Methylpentane	10.12	0	0	0
Isopropyl Alcohol	10.16	0	0	0	3-Methylpentane	10.08	0	0	0
Isopropylamine	8.72	0	0	0	2-Methylpropane	10.56	0	0	0
Isopropylbenzene	8.75	0	0	0	2-Methylpropanal	9.74	0	0	0
Isopropyl Ether	9.20	0	0	0	2-Methyl-2-propanol	9.70	0	0	0
Isovaleraldehyde	9.71	0	0	0	2-Methylpropene	9.23	0	0	0
Ketene	9.61	0	0	0	Methyl n-propyl Ketone	9.39	0	0	0
Mesitylene	8.40	0	0	0	Methyl Styrene	8.35	0	0	0
Mesityl Oxide	9.08	0	0	0	Monomethyl Hydrazine	8.00	0	0	0
Methane	12.98	0	0	0	Naphthalene	8.10	0	0	0
Methanol*	10.85	0	0	0	Nitric Oxide	9.25	0	0	0
Methyl Acetate	10.27	0	0	0	Nitrobenzene	9.92	0	0	0
Methyl Acrylate	10.72	0	0	0	p-Nitrochlorobenzene	9.96	0	0	0
Methylamine	8.97	0	0	0	n-Nonane	10.21	0	0	0
Methyl Bromide (Bromomethane)	10.53	0	0	0	5-Nonanone	9.10	0	0	0
2-Methyl-1,3-butadiene	8.85	0	0	0	n-Octane	10.24	0	0	0
2-Methylbutanal	9.71	0	0	0	3-Octanone	9.19	0	0	0
2-Methylbutane	10.31	0	0	0	4-Octanone	9.10	0	0	0
2-Methyl-1-butene	9.12	0	0	0	1-Octene	9.52	0	0	0
3-Methyl-1-butene	9.51	0	0	0	n-Pentane	10.53	0	0	0
3-Methyl-2-butene	8.67	0	0	0	cis-1,3-Pentadiene	8.59	0	0	0
Methyl tert-Butyl Ether	9.41	0	0	0	trans-1,3-Pentadiene	8.56	0	0	0
Methyl n-Butyl Ketone	9.34	0	0	0	n-Pentanal	9.82	0	0	0
Methyl Butyrate	10.07	0	0	0	2,4-Pentanedione	8.87	0	0	0
Methyl Cellosolve	n.p.	0	0	0	2-Pentanone	9.39	0	0	0
Methyl Cellosolve Acetate	n.p.	0	0	0	3-Pentanone	9.32	0	0	0
Methyl Chloroacetate	10.35	0	0	0	1-Pentene	9.50	0	0	0

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	POTENTIAL(eV)	GC	PID		FID	POTENTIAL(eV)	GC	PID	FID
Methylchloroform (1,1,1-TCA)*	11.25	0	0	0	Perfluoro-2-butene*	11.25	0	0	0
Methylcyclohexane	9.85	0	0	0	Perfluoro-1-heptene	10.48	0	0	0
Methylcyclohexanol	9.80	0	0	0	n-Perfluoropropyl Iodide	10.36	0	0	0
Methylcyclohexanone	9.05	0	0	0	n-Perfluoropropyl-iodomethane	9.96	0	0	0
4-Methylcyclohexene	8.91	0	0	0	n-Perfluoropropyl-methyl Ketone	10.58	0	0	0
Methylcyclopropane	9.52	0	0	0	Phenol	8.69	0	0	0
Methyl Dichloroacetate	10.44	0	0	0	Phenyl Ether	8.09	0	0	0
Methyl Ethanoate	10.27	0	0	0	Phenyl Isocyanate	8.77	0	0	0
Methyl Ethyl Ketone (MEK)	9.53	0	0	0	Phosphine	9.96	0	0	0
Methyl Ethyl Sulfide	8.55	0	0	0	Pinene	8.07	0	0	0
2-Methyl Furan	8.39	0	0	0	Propadiene	10.19	0	0	0
Methyl Iodide	9.54	0	0	0	n-Propanal	9.95	0	0	0
Propane*	11.07	0	0	0	1,1,1-Trifluoro-2-iodoethane	10.10	0	0	0
1-Propanethiol	9.20	0	0	0	Trifluoroiodomethane	10.40	0	0	0
n-Propanol	10.51	0	0	0	Trifluoromethylbenzene	9.68	0	0	0
Propanone	9.69	0	0	0	Trifluoromethylcyclohexane	10.46	0	0	0
Propene	9.73	0	0	0	1,1,1-Trifluoropropene	10.90	0	0	0
Prop-1-ene-2-ol	8.20	0	0	0	Trimethylamine	7.82	0	0	0
Prop-2-ene-1-ol	9.67	0	0	0	2,2,4-Trimethyl Pentane	9.86	0	0	0
Propionaldehyde	9.98	0	0	0	2,2,4-Trimethyl-3-pentanone	8.82	0	0	0
n-Propyl Acetate	10.04	0	0	0	n-Valeraldehyde	9.82	0	0	0
n-Propyl Alcohol	10.20	0	0	0	Vinyl Acetate	9.19	0	0	0
n-Propylamine	8.78	0	0	0	Vinyl Bromide	9.80	0	0	0
n-Propylbenzene	8.72	0	0	0	Vinyl Chloride (Chloroethene)	10.00	0	0	0
Propylene	9.73	0	0	0	4-Vinylcyclohexene	8.93	0	0	0
Propylene Dichloride	10.87	0	0	0	Vinyl Ethanoate	9.19	0	0	0
Propylene Imine	8.76	0	0	0	Vinyl Fluoride	10.37	0	0	0
Propylene Oxide	10.22	0	0	0	Vinylidene Chloride (1,1-DCE)	10.00	0	0	0
n-Propyl Ether	9.27	0	0	0	Vinyl Methyl Ether	8.93	0	0	0
n-Propyl Formate	10.54	0	0	0	o-Vinyl Toluene	8.20	0	0	0
Propyne	10.36	0	0	0	o-Xylene	8.56	0	0	0
Pyridine	9.32	0	0	0	m-Xylene	8.56	0	0	0
Styrene	8.47	0	0	0	p-Xylene	8.45	0	0	0
Tetrabromoethane	n.p.	0	0	0	2,4-Xylidine	7.65	0	0	0
Tetrachloroethylene (PCE)	9.32	0	0	0					
1,1,1,2-Tetrachloroethane	n.p.	0	0	0					
1,1,2,2-Tetrachloroethane	11.10	0	0	0					
Tetrafluoroethene	10.12	0	0	0					
Tetrahydrofuran	9.54	0	0	0					
1,1,1,2-Tetrachloropropane	n.p.	0	0	0					
1,2,2,3-Tetrachloropropane	n.p.	0	0	0					
Thioethanol	9.29	0	0	0					
Thiomethanol	9.44	0	0	0					
Thiophene	8.86	0	0	0					

*The sensitivity of the 2020, TIP, MicroTIP and GCs to these compounds may be enhanced using an 11.7 eV lamp instead of the standard 10.6 eV lamp energy.

n.p. - not published

GC = Voyager, 10S+, 10S70, 10S50, 10S30, 10S10 and 10A10
PID = 2020, TIPI, ,TIPII, MicroTIP MP-100, HL-200,
MP-1000, HL-2000 and IS-3000

1-Thiopropanol	9.20	0	0	0	
Toluene	8.82	0	0	0	Many compounds not appearing in this list, with an ionization potential of 12.0 eV or less, may also be detectable.
o-Toluidine	7.44	0	0	0	
Tribromoethene	9.27	0	0	0	
1,1,1-Trichlorobutanone	9.54	0	0	0	For further information, please contact the Technical Services/ Applications Department at Photovac.
1,1,1-Trichloroethane*	11.25	0	0	0	
1,1,2-Trichloroethane*	11.00	0	0	0	
Trichloroethylene (TCE)	9.45	0	0	0	TIP and MicroTIP are Trademarks of Photovac.
Trichloromethyl Ethyl Ether	10.08	0	0	0	Freon ® is a Dupont Registered Trademark.
1,1,2-Trichloropropane	n.p.	0	0	0	Cellosolve ® is a Registered Trademark of Union Carbide Corp.
1,2,3-Trichloropropane	n.p.	0	0	0	
Triethylamine	7.50		0	0	
1,2,4-Trifluorobenzene	9.37	0	0	0	
1,3,5-Trifluorobenzene	9.32	0	0	0	
Trifluoroethene	10.14	0	0	0	