Table S2. Results of GC–MS analysis of volatiles extracted by mechanical shock crushing from quartz (Blagodatnoye deposit, Yenisei ridge).

Formula	Name	[1]CAS/(NIST)	[2]MW	Quartz 7/96.0	
				[3]RT, min	[4]A, %
Aliphatic hydrocarbons					
Paraffins					
CH_4	Methane	74-82-8	16	1.72	6.086
C_2H_6	Ethane	74-84-0	30	2.47	0.082
C_3H_8	n-Propane	74-98-6	44	4.23	0.019
C_4H_{10}	Isobutane	75-28-5	58	5.76	0.015
C_4H_{10}	n-Butane	106-97-8	58	6.16	0.018
C_5H_{12}	n-Pentane	109-66-0	72	8.63	0.003
C_6H_{14}	n-Hexane	110-54-3	86	12.07	0.013
C_7H_{16}	n-Heptane	142-82-5	100	16.12	0.007
C_8H_{16}	3-Methyleneheptane	1632-16-2	112	19.60	0.003
C_8H_{18}	n-Octane	111-65-9	114	20.22	0.008
C_9H_{20}	n-Nonane	111-84-2	128	24.10	0.010
$C_{10}H_{22}$	n-Decane	124-18-5	142	27.69	0.012
$C_{11}H_{24}$	n-Undecane	1120-21-4	156	31.01	0.009
$C_{12}H_{26}$	n-Dodecane	112-40-3	170	34.15	0.007
$C_{13}H_{28}$	6-Methyldodecane	6044-71-9	184	35.14	0.014
$C_{13}H_{28}$	n-Tridecane	629-50-5	184	38.15	0.009
$C_{14}H_{30}$	n-Tetradecane	629-59-4	198	44.98	0.023
$C_{15}H_{32}$	n-Pentadecane	629-62-9	212	54.22	0.067
$C_{16}H_{34}$	5,8-Diethyldodecane	24251-86-3	226	60.55	0.021
$C_{16}H_{34}$	n-Hexadecane	544-76-3	226	68.96	0.021
$C_{18}H_{38}$	3-Methylheptadecane	6418-44-6	254	112.52	1.035
Olefins					
C_2H_4	Ethylene	74-85-1	28	2.23	0.004
C_4H_8	2-Methyl-1-propene	115-11-7	56	5.96	0.008
C_4H_8	2-Butene	107-01-7	56	6.28	<0.001
C_5H_{10}	2-methyl-2-butene	513-35-9	70	8.19	0.003
C_5H_{10}	1-Pentene	109-67-1	70	8.33	0.001
C_5H_8	1,3-Pentadiene	1574-41-0	68	8.58	0.003
C_5H_8	(E)-1,3-Pentadiene	2004-70-8	68	8.68	<0.001
C_5H_8	(Z)-1,3-Pentadiene	1574-41-0	68	8.81	<0.001
C_6H_{12}	1-Hexene	592-41-6	84	11.72	0.008
C_7H_{14}	1-Heptene	592-76-7	98	15.77	0.004
C_8H_{16}	1-Octene	111-66-0	112	19.88	0.002
C_9H_{18}	1-Nonene	124-11-8	126	23.81	0.002
$C_{10}H_{20}$	1-Decene	872-05-9	140	27.44	0.003
$C_{11}H_{22}$	1-Undecene	821-95-4	154	30.51	0.005
$C_{12}H_{24}$	1-Dodecene	112-41-4	168	33.94	0.005
$C_{13}H_{26}$	1-Tridecene	2437-56-1	182	37.90	0.006

$C_{14}H_{28}$	1-Tetradecene	1120-36-1	196	44.36	0.022
$C_{15}H_{30}$	1-Pentadecene	13360-61-7	210	53.14	0.021
$C_{16}H_{32}$	1-Hexadecene	629-73-2	224	67.59	0.026
Cyclic hydrocarbons					
Cycloalkanes (naphthenes) and cycloalkenes					
C_6H_{10}	1-Methylcyclopentene	693-89-0	82	12.86	0.001
Arenes					
C_6H_6	Benzene	71-43-2	78	12.71	0.011
C_7H_8	Toluene	108-88-3	92	17.09	0.006
C_7H_7F	(Fluoromethyl)benzene	350-50-5	110	20.73	<0.001
C_8H_{10}	Ethylbenzene	100-41-4	106	21.13	0.002
C_8H_{10}	p-Xylene	106-42-3	106	21.40	0.005
C_8H_{10}	o-Xylene	95-47-6	106	21.70	0.001
C_8H_{10}	m-Xylene	108-38-3	106	22.03	0.001
C_8H_8	Styrene	100-42-5	104	22.05	0.016
C_9H_{12}	Propylbenzene	103-65-1	120	24.96	0.005
$C_{10}H_{14}$	Butylbenzene	104-51-8	134	28.73	0.011
$C_{11}H_{16}$	Pentylbenzene	538-68-1	148	32.12	0.013
$C_{12}H_{18}$	Hexylbenzene	1077-16-3	162	35.57	0.007
$C_{13}H_{20}$	Heptylbenzene	1078-71-3	176	40.47	0.006
Oxygenated hydrocarbons					
Alcohols					
CH_4O	Methanol	67-56-1	32	4.93	0.010
C_2H_6O	Ethanol	64-17-5	46	6.51	0.001
C_3H_8O	Isopropyl Alcohol	67-63-0	60	8.08	0.001
C_3H_8O	1-Propanol	71-23-8	60	9.13	0.001
$C_4H_{10}O$	1-Butanol	71-36-3	74	12.97	0.015
C_6H_6O	Phenol	108-95-2	94	24.80	0.004
Ethers and esters					
$C_5H_8O_2$	Methyl methacrylate	80-62-6	100	14.49	0.002
$C_4H_6O_2$	Butyrolactone	96-48-0	86	20.98	0.002
$C_8H_{14}O_2$	γ-Octalactone	104-50-7	142	34.60	0.004
$C_9H_{16}O_2$	γ-Nonalactone	104-61-0	156	39.15	0.003
$C_{10}H_{18}O_2$	γ-Decalactone	706-14-9	170	46.09	0.005
$C_{13}H_{18}O_2$	Benzoic acid n-hexyl ester	6789-88-4	206	56.02	0.009
$C_{14}H_{20}O_2$	Benzoic acid hept-2-yl ester	(368694)	220	58.88	0.007
$C_{14}H_{20}O_2$	Benzoic acid hept-3-yl ester	(368767)	220	63.50	0.015
$C_{13}H_{16}O_2$	Benzoic acid cyclohexyl ester	2412-73-9	204	70.99	0.033
$C_{12}H_{22}O_2$	γ-Dodecalactone	2305-05-7	198	74.22	0.155
$C_{14}H_{20}O_2$	Benzoic acid heptyl ester	7155-12-6	220	78.08	0.030
$C_{14}H_{20}O_2$	Butyl ester 4-propyl-benzoic acid	(439058)	220	88.01	0.014

$C_{14}H_{18}O_4$	Dipropyl phthalate	131-16-8	250	98.67	0.295
Aldehydes					
C_2H_4O	Acetaldehyde	75-07-0	44	5.28	0.041
C_3H_4O	2-Propenal	107-02-8	56	7.29	0.004
C_3H_6O	n-Propanal	123-38-6	58	7.46	0.008
C_4H_6O	2-Methyl-2-propenal	78-85-3	70	9.76	0.005
C_4H_8O	2-Methyl-propanal	78-84-2	72	9.79	0.007
C_4H_8O	n-Butanal	123-72-8	72	10.54	0.005
C_5H_8O	2-Methyl-2-butenal	1115-11-3	84	13.47	0.001
$C_5H_{10}O$	3-methyl-butanal	590-86-3	86	13.77	0.003
$C_5H_{10}O$	n-Pentanal	110-62-3	86	14.72	0.003
$C_5H_4O_2$	Furfural	98-01-1	96	17.50	0.005
$C_6H_{10}O$	2-Methyl-2-pentenal	623-36-9	98	18.15	<0.001
$C_5H_4O_2$	3-Furaldehyde	498-60-2	96	18.37	0.003
$C_6H_{12}O$	n-Hexanal	66-25-1	100	19.07	0.013
$C_7H_{14}O$	n-Heptanal	111-71-7	114	23.20	0.008
$C_6H_6O_2$	5-Methyl-2-furancarboxaldehyde	620-02-0	110	23.41	0.001
C_7H_6O	Benzaldehyde	100-52-7	106	24.16	0.018
$C_8H_{16}O$	2-Ethylhexanal	123-05-7	128	25.66	0.005
$C_8H_{16}O$	n-Octanal	124-13-0	128	27.01	0.014
$C_9H_{18}O$	n-Nonanal	124-19-6	142	30.51	0.025
$C_{10}H_{20}O$	n-Decanal	112-31-2	156	33.74	0.023
$C_{11}H_{22}O$	n-Undecanal	112-44-7	170	37.70	0.009
$C_{12}H_{24}O$	n-Dodecanal	112-54-9	184	43.83	0.012
$C_{14}H_{28}O$	n-Tetradecanal	124-25-4	212	65.56	0.048
$C_{15}H_{30}O$	n-Pentadecanal	2765-11-9	226	91.57	0.036
Ketones					
C_3H_6O	2-Propanone	67-64-1	58	7.66	0.014
$C_4H_6O_2$	2,3-Butanedione	431-03-8	86	10.66	0.007
C_4H_8O	2-Butanone	78-93-3	72	10.74	0.008
C_5H_8O	Cyclopentanone	120-92-3	84	16.97	0.003
$C_6H_{12}O$	2-Hexanone	591-78-6	100	18.78	0.003
$C_7H_{14}O$	2-Heptanone	110-43-0	114	22.90	0.003
$C_8H_{16}O$	2-Octanone	111-13-7	128	25.90	0.003
$C_9H_{18}O$	2-Nonanone	821-55-6	142	30.19	0.003
$C_{10}H_{20}O$	2-Decanone	693-54-9	156	33.41	0.013
$C_8H_4O_3$	1,3-Isobenzofurandione	85-44-9	148	36.04	0.015
$C_{11}H_{22}O$	2-Undecanone	53452-70-3	170	37.19	0.011
$C_{12}H_{24}O$	2-Dodecanone	6175-49-1	184	42.73	0.017
$C_{13}H_{26}O$	2-Tridecanone	593-08-8	198	51.56	0.014
$C_{15}H_{30}O$	3-Pentadecanone	18787-66-1	226	79.35	0.059
$C_{15}H_{30}O$	2-Pentadecanone	2345-28-0	226	87.86	0.033
Carboxylic acids					
$C_2H_4O_2$	Acetic acid	64-19-7	60	11.36	0.096

$C_3H_6O_2$	n-Propanoic acid	79-09-4	74	15.45	0.003
$C_4H_8O_2$	n-Butanoic acid	107-92-6	88	19.00	0.047
$C_5H_{10}O_2$	3-Methylbutanoic acid	503-74-2	102	22.10	0.004
$C_5H_{10}O_2$	n-Pentanoic acid	109-52-4	102	23.03	0.011
$C_6H_{12}O_2$	n-Hexanoic acid	142-62-1	116	26.53	0.054
$C_7H_{14}O_2$	n-Heptanoic acid	111-14-8	130	29.99	0.014
$C_8H_{16}O_2$	n-Octanoic acid	124-07-2	144	32.99	0.109
$C_9H_{18}O_2$	n-Nonanoic acid	112-05-0	158	36.67	0.016
$C_{10}H_{20}O_2$	n-Decanoic acid	334-48-5	172	41.76	0.054
$C_{11}H_{22}O_2$	n-Undecanoic acid	112-37-8	186	54.20	0.072
$C_{12}H_{24}O_2$	n-Dodecanoic acid	143-07-7	200	62.61	0.164
$C_{13}H_{26}O_2$	n-Tridecanoic acid	638-53-9	214	88.96	0.011
$C_{14}H_{28}O_2$	2-Methyltridecanoic acid	x	228	110.81	0.027
$C_{14}H_{28}O_2$	n-Tetradecanoic acid	544-63-8	228	118.55	0.081
Heterocyclic compounds					
Furans					
C_5H_6O	2-Methylfuran	534-22-5	82	10.34	0.001
C_6H_8O	2-Ethylfuran	3208-16-0	96	15.09	<0.001
$C_9H_{14}O$	2-Pentylfuran	3777-69-3	138	26.16	0.004
Nitrogenated compounds					
N_2	Nitrogen	7727-37-9	28	1.62	1.389
CHNO	Hydrogen isocyanate	75-13-8	43	6.46	0.017
C_2H_3N	Acetonitrile	75-05-8	41	6.89	0.010
C_2H_5NO	Acetamide	60-35-5	59	16.05	0.011
$C_4H_6N_2$	1-Methyl-1H-pyrazole	930-36-9	82	18.28	0.002
$C_6H_8N_2O$	2-Methoxy-6-methylpyrazine	2882-21-5	124	27.81	0.003
$C_4H_5NO_2$	Succinimide	123-56-8	99	28.89	0.004
Sulfonated compounds					
H_2S	Hydrogen sulfide	7783-06-4	34	2.86	0.001
COS	Carbonyl sulfide	463-58-1	60	3.51	0.002
O_2S	Sulfur dioxide	7446-09-5	64	4.65	0.068
CH_4S	Methanethiol	74-93-1	48	5.56	0.003
CS_2	Carbon disulfide	75-15-0	76	7.88	0.003
C_4H_4S	Thiophene	110-02-1	84	12.36	<0.001
$C_2H_6S_2$	Dimethyl disulfide	624-92-0	94	15.44	<0.001
C_5H_6S	2-Methylthiophene	554-14-3	98	16.92	<0.001
Inorganic compounds					
Oxides					
CO_2	Carbon dioxide	124-38-9	44	1.92	2.130
H_2O	Water	7732-18-5	18	3.21	86.775
Noble gases					
Ar	Argon	7440-37-1	40	1.62	0.008
Other					
C_4H_7ClO	Butanoyl chloride	141-75-3	106	16.35	0.003

Note: [1]CAS/(NIST) – unique numerical identifier of chemical compounds included in the register Chemical Abstracts Service (https://www.cas.org) or NIST number (a unique number given to each spectrum in the NIST archive); [2]MW – nominal mass; [3]RT – retention time; [4]A – normalized area (the area ratio of the individual gas mixture components to the sum of the areas of all the components in the chromatogram).