

Additional File 4: Dataset S2 - Pairwise similarity alignment matrix of related *Mariner* families. The abbreviations correspond to the species names and IDs as described in the caption of Figure 2.

Sequences	Hs (Mariner-47_HSal)	Hs (Mariner-45_HSal)	Cf (Mariner-6_CFI)	Hs (Mariner-35_HSal)	Df (Mariner-1_DF)	Ac (Mariner-1_Ace)	Lh (ADOQ01001582)	Lh (ADOQ01008024)	Dm (JX976930)
Hs (Mariner-47_HSal)	ID								
Hs (Mariner-45_HSal)	0.665	ID							
Cf (Mariner-6_CFI)	0.685	0.632	ID						
Hs (Mariner-35_HSal)	0.669	0.653	0.722	ID					
Df (Mariner-1_DF)	0.639	0.628	0.644	0.653	ID				
Ac (Mariner-1_Ace)	0.647	0.583	0.657	0.653	0.676	ID			
Lh (ADOQ01001582)	0.635	0.583	0.640	0.648	0.684	0.971	ID		
Lh (ADOQ01008024)	0.635	0.579	0.644	0.644	0.676	0.930	0.950	ID	
Dm (JX976930)	0.520	0.461	0.489	0.469	0.528	0.539	0.526	0.527	ID
Dm (JX976937)	0.516	0.461	0.485	0.473	0.532	0.543	0.530	0.531	0.995
Dm (JX976938)	0.514	0.455	0.483	0.467	0.518	0.536	0.524	0.533	0.844
Ce (JX976929)	0.514	0.451	0.483	0.463	0.514	0.532	0.520	0.529	0.853
Dm (JX976934)	0.526	0.467	0.495	0.475	0.534	0.549	0.536	0.537	0.882
Ce (JX976928)	0.522	0.467	0.487	0.475	0.538	0.553	0.540	0.541	0.877
Dm (JX976936)	0.514	0.455	0.483	0.471	0.522	0.540	0.528	0.537	0.853
Mr (AFJA01006902)	0.643	0.604	0.616	0.636	0.663	0.707	0.703	0.679	0.557
Mr (AFJA01006736)	0.635	0.608	0.616	0.640	0.655	0.699	0.691	0.674	0.549
Dm (JX976932)	0.572	0.518	0.534	0.558	0.576	0.607	0.591	0.600	0.659
Dm (JX976933)	0.584	0.534	0.546	0.570	0.596	0.623	0.607	0.609	0.685
Si (AEAQ01010279)	0.608	0.529	0.601	0.629	0.596	0.626	0.614	0.617	0.622
Si (AEAQ01009575)	0.604	0.545	0.593	0.605	0.604	0.630	0.618	0.621	0.605
Cf (AEAB01001421)	0.647	0.612	0.636	0.624	0.668	0.687	0.670	0.683	0.668
Cf (AEAB01018477)	0.647	0.612	0.636	0.624	0.668	0.687	0.670	0.683	0.668
Ee (EEu_Mariner_Tbel)	0.655	0.587	0.653	0.648	0.672	0.703	0.691	0.674	0.648
Pb (PBA_Mariner_Tbel)	0.688	0.624	0.653	0.685	0.684	0.728	0.716	0.699	0.665
Tb (Mariner_Tbel)	0.688	0.608	0.657	0.677	0.684	0.728	0.716	0.699	0.661
Hs (HSal_Mariner_Tbel)	0.692	0.612	0.661	0.681	0.688	0.732	0.720	0.703	0.665
Hs (Mariner-22_HSal)	0.693	0.644	0.734	0.718	0.693	0.710	0.689	0.689	0.530
Ae (Mariner-16_AEc)	0.677	0.706	0.657	0.689	0.644	0.673	0.665	0.685	0.489
Ae (AEC_Mariner-8_Sln)	0.689	0.710	0.685	0.669	0.640	0.653	0.648	0.640	0.497
Si (Mariner-8_Sln)	0.685	0.710	0.689	0.685	0.648	0.665	0.661	0.653	0.497
Bte (Mariner-1_Bte)	0.668	0.604	0.616	0.657	0.700	0.684	0.672	0.663	0.549
Am (AMe_FAMAR1)	0.688	0.608	0.640	0.624	0.692	0.700	0.696	0.688	0.569
Fa (FAMAR1)	0.680	0.600	0.632	0.624	0.692	0.700	0.696	0.688	0.569
Hs (Mariner-2_HSal)	0.704	0.595	0.624	0.644	0.737	0.684	0.680	0.672	0.565
Hs (Mariner-42_HSal)	0.692	0.628	0.632	0.657	0.696	0.680	0.676	0.663	0.565
Ac (Mariner-13_Ace)	0.704	0.608	0.644	0.657	0.745	0.713	0.717	0.700	0.569
Ae (AEVX01012963)	0.692	0.604	0.636	0.644	0.737	0.700	0.704	0.688	0.573
Cc_4	0.479	0.408	0.457	0.473	0.520	0.473	0.481	0.481	0.515
Cc_6	0.495	0.420	0.465	0.489	0.536	0.477	0.485	0.497	0.524
Cc_5	0.479	0.412	0.457	0.473	0.520	0.465	0.473	0.481	0.497
Cc_7	0.487	0.416	0.461	0.469	0.524	0.469	0.477	0.485	0.502
Cc (JX976920)	0.577	0.493	0.567	0.555	0.622	0.576	0.563	0.570	0.590
Cc (JX976921)	0.573	0.493	0.546	0.559	0.602	0.567	0.555	0.569	0.588
Cc (JX976922)	0.598	0.506	0.571	0.575	0.627	0.584	0.572	0.579	0.607
Cc (JX976923)	0.581	0.502	0.555	0.559	0.610	0.576	0.563	0.577	0.594
Dm (JX976931)	0.549	0.489	0.518	0.493	0.586	0.576	0.584	0.589	0.589
Ce (JX976927)	0.598	0.538	0.575	0.587	0.659	0.633	0.633	0.634	0.588
Dm (JX976935)	0.598	0.534	0.575	0.587	0.659	0.637	0.637	0.650	0.590
Ce (JX976926)	0.594	0.538	0.571	0.579	0.655	0.629	0.629	0.644	0.590
Ce (JX976924)	0.602	0.546	0.587	0.600	0.668	0.646	0.646	0.640	0.590
Ce (JX976925)	0.590	0.542	0.575	0.583	0.659	0.633	0.633	0.648	0.590
Hs (Mariner-36_HSal)	0.668	0.640	0.657	0.673	0.713	0.684	0.688	0.684	0.536
Hs (Mariner-23_HSal)	0.655	0.604	0.718	0.657	0.717	0.724	0.736	0.728	0.563
Pb (PBA_Mariner23_HSal)	0.651	0.608	0.693	0.648	0.709	0.699	0.716	0.707	0.543
Ca (Mariner_CA)	0.700	0.677	0.710	0.738	0.737	0.762	0.754	0.754	0.581
Si (Mariner-24_Sln)	0.638	0.607	0.700	0.655	0.662	0.715	0.707	0.703	0.524
Sm (SMAR7)	0.655	0.620	0.706	0.657	0.672	0.729	0.725	0.729	0.516
At (Mariner-1_AFI)	0.631	0.575	0.693	0.624	0.647	0.688	0.692	0.680	0.512
Hs (Mariner-11_HSal)	0.672	0.628	0.718	0.697	0.694	0.725	0.721	0.713	0.553
Hs (Mariner-16_HSal)	0.697	0.697	0.714	0.734	0.628	0.673	0.669	0.661	0.469
Der (Mariner-2_DEr)	0.685	0.718	0.636	0.673	0.608	0.657	0.648	0.636	0.465
Hs (Mariner-46_HSal)	0.677	0.722	0.657	0.669	0.640	0.640	0.632	0.624	0.493
Del (Mariner-2_DEI)	0.624	0.685	0.644	0.665	0.608	0.608	0.600	0.591	0.489
Del (Mariner-1_DEI)	0.575	0.697	0.620	0.628	0.604	0.595	0.587	0.575	0.477
Bt (Mariner-1_BT)	0.653	0.636	0.730	0.738	0.636	0.636	0.636	0.628	0.497
Ac (Mariner-5_Ace)	0.676	0.624	0.722	0.702	0.663	0.643	0.643	0.647	0.520
Si (Mariner-28_Sln)	0.663	0.648	0.697	0.714	0.631	0.639	0.622	0.631	0.514

Sequences	Dm (JX976937)	Dm (JX976938)	Ce (JX976929)	Dm (JX976934)	Ce (JX976928)	Dm (JX976936)	Mr (AFJA01006902)	Mr (AFJA01006736)	Dm (JX976932)	Dm (JX976933)	Si (AEAQ01010279)
Hs (Mariner-47_HSal)											
Hs (Mariner-45_HSal)											
Cf (Mariner-6_CFI)											
Hs (Mariner-35_HSal)											
Df (Mariner-1_DF)											
Ac (Mariner-1_ACe)											
Lh (ADOQ01001582)											
Lh (ADOQ01008024)											
Dm (JX976930)											
Dm (JX976937)		ID									
Dm (JX976938)	0.849		ID								
Ce (JX976929)	0.849	0.980		ID							
Dm (JX976934)	0.877	0.962	0.971	ID							
Ce (JX976928)	0.882	0.962	0.962	0.990	ID						
Dm (JX976936)	0.858	0.990	0.990	0.971	0.971	ID					
Mr (AFJA01006902)	0.561	0.559	0.555	0.572	0.576	0.563	ID				
Mr (AFJA01006736)	0.553	0.547	0.543	0.559	0.563	0.551	0.909	ID			
Dm (JX976932)	0.655	0.679	0.684	0.673	0.669	0.684	0.654	0.634	ID		
Dm (JX976933)	0.681	0.669	0.673	0.699	0.695	0.673	0.670	0.650	0.974	ID	
Si (AEAQ01010279)	0.626	0.619	0.628	0.640	0.640	0.628	0.705	0.673	0.673	0.693	ID
Si (AEAQ01009575)	0.609	0.615	0.611	0.632	0.636	0.619	0.697	0.681	0.722	0.742	0.773
Cf (AEAB01001421)	0.672	0.673	0.669	0.686	0.690	0.678	0.735	0.714	0.754	0.771	0.784
Cf (AEAB01018477)	0.672	0.673	0.669	0.686	0.690	0.678	0.735	0.714	0.754	0.771	0.784
Ee (EeU_Mariner_Tbel)	0.652	0.641	0.637	0.654	0.658	0.646	0.776	0.760	0.739	0.756	0.806
Pb (PbA_Mariner_Tbel)	0.669	0.662	0.658	0.679	0.683	0.666	0.801	0.785	0.768	0.788	0.842
Tb (Mariner_Tbel)	0.665	0.662	0.658	0.674	0.679	0.666	0.809	0.793	0.768	0.784	0.834
Hs (HSal_Mariner_Tbel)	0.669	0.666	0.662	0.679	0.683	0.670	0.814	0.797	0.772	0.788	0.838
Hs (Mariner-22_HSal)	0.526	0.524	0.528	0.540	0.536	0.528	0.648	0.640	0.598	0.610	0.625
Ae (Mariner-16_AEc)	0.485	0.471	0.471	0.487	0.483	0.471	0.632	0.612	0.538	0.554	0.561
Ae (AEc_Mariner-8_Sin)	0.493	0.491	0.495	0.512	0.512	0.495	0.632	0.616	0.554	0.570	0.593
Si (Mariner-8_Sin)	0.502	0.500	0.495	0.512	0.520	0.504	0.644	0.628	0.554	0.570	0.589
Bte (Mariner-1_Bte)	0.553	0.551	0.546	0.563	0.563	0.555	0.713	0.680	0.608	0.625	0.632
Am (AMc_FAMAR1)	0.565	0.538	0.542	0.563	0.559	0.542	0.692	0.676	0.608	0.629	0.604
Fa (FAMAR1)	0.565	0.538	0.542	0.563	0.559	0.542	0.684	0.668	0.600	0.620	0.600
Hs (Mariner-2_HSal)	0.569	0.555	0.551	0.567	0.571	0.559	0.700	0.692	0.604	0.620	0.616
Hs (Mariner-42_HSal)	0.569	0.571	0.567	0.587	0.587	0.575	0.688	0.692	0.604	0.625	0.624
Ac (Mariner-13_ACe)	0.573	0.567	0.563	0.579	0.579	0.571	0.709	0.696	0.616	0.633	0.632
Ae (AEVX01012963)	0.577	0.571	0.567	0.583	0.583	0.575	0.704	0.692	0.608	0.625	0.620
Cc_4	0.511	0.500	0.504	0.504	0.495	0.504	0.524	0.500	0.536	0.536	0.497
Cc_6	0.529	0.495	0.491	0.513	0.513	0.500	0.541	0.524	0.531	0.553	0.510
Cc_5	0.493	0.486	0.490	0.491	0.482	0.490	0.516	0.500	0.536	0.536	0.497
Cc_7	0.497	0.490	0.495	0.495	0.486	0.495	0.516	0.500	0.532	0.531	0.493
Cc (JX976920)	0.594	0.566	0.562	0.583	0.583	0.570	0.603	0.590	0.597	0.614	0.597
Cc (JX976921)	0.594	0.578	0.592	0.581	0.573	0.583	0.578	0.578	0.610	0.604	0.597
Cc (JX976922)	0.603	0.575	0.587	0.600	0.592	0.579	0.599	0.590	0.605	0.622	0.618
Cc (JX976923)	0.590	0.585	0.598	0.587	0.579	0.589	0.586	0.578	0.616	0.610	0.605
Dm (JX976931)	0.584	0.597	0.601	0.600	0.595	0.601	0.557	0.561	0.590	0.588	0.551
Ce (JX976927)	0.593	0.635	0.631	0.629	0.629	0.640	0.652	0.644	0.662	0.659	0.613
Dm (JX976935)	0.594	0.622	0.618	0.630	0.630	0.626	0.648	0.640	0.648	0.661	0.630
Ce (JX976926)	0.594	0.637	0.633	0.630	0.630	0.641	0.648	0.640	0.663	0.661	0.626
Ce (JX976924)	0.594	0.637	0.633	0.630	0.630	0.641	0.657	0.657	0.668	0.665	0.610
Ce (JX976925)	0.594	0.634	0.630	0.630	0.630	0.639	0.644	0.644	0.665	0.665	0.622
Hs (Mariner-36_HSal)	0.540	0.530	0.526	0.538	0.542	0.534	0.725	0.713	0.612	0.625	0.648
Hs (Mariner-23_HSal)	0.567	0.561	0.557	0.577	0.577	0.565	0.736	0.716	0.623	0.643	0.702
Pb (PbA_Mariner23_HSal)	0.547	0.528	0.524	0.545	0.549	0.532	0.724	0.703	0.603	0.623	0.686
Ca (Mariner_CA)	0.586	0.571	0.567	0.583	0.587	0.575	0.692	0.696	0.653	0.669	0.668
Si (Mariner-24_Sin)	0.528	0.522	0.518	0.530	0.530	0.526	0.699	0.695	0.588	0.600	0.634
Sm (SMAR7)	0.520	0.518	0.514	0.526	0.526	0.522	0.704	0.700	0.580	0.592	0.644
Af (Mariner-1_AFI)	0.516	0.502	0.497	0.510	0.510	0.506	0.676	0.655	0.572	0.584	0.644
Hs (Mariner-11_HSal)	0.557	0.546	0.542	0.559	0.563	0.551	0.709	0.700	0.657	0.673	0.664
Hs (Mariner-16_HSal)	0.465	0.459	0.463	0.479	0.475	0.463	0.624	0.620	0.566	0.582	0.577
Der (Mariner-2_DER)	0.461	0.455	0.459	0.471	0.467	0.459	0.612	0.608	0.538	0.550	0.537
Hs (Mariner-46_HSal)	0.489	0.483	0.487	0.500	0.495	0.487	0.604	0.595	0.554	0.566	0.545
Del (Mariner-2_DEI)	0.495	0.467	0.471	0.483	0.475	0.471	0.604	0.620	0.546	0.558	0.545
Del (Mariner-1_DEI)	0.473	0.451	0.455	0.467	0.463	0.455	0.583	0.571	0.534	0.546	0.521
Bt (Mariner-1_BT)	0.493	0.475	0.479	0.495	0.491	0.479	0.608	0.608	0.558	0.574	0.561
Ac (Mariner-5_ACe)	0.516	0.510	0.514	0.526	0.522	0.514	0.651	0.647	0.584	0.596	0.596
Si (Mariner-28_Sin)	0.510	0.495	0.500	0.512	0.508	0.500	0.610	0.606	0.568	0.580	0.584

Sequences	Si (AEAQ01009575)	Cf (AEAB01001421)	Cf (AEAB01018477)	Ee (EEu_Mariner_Tbel)	Pb (PBa_Mariner_Tbel)	Tb (Mariner_Tbel)	Hs (HSal_Mariner_Tbel)	Hs (Mariner-22_HSal)	Ae (Mariner-16_AEc)
Hs (Mariner-47_HSal)									
Hs (Mariner-45_HSal)									
Cf (Mariner-6_CFI)									
Hs (Mariner-35_HSal)									
Df (Mariner-1_DF)									
Ac (Mariner-1_ACe)									
Lh (ADOQ01001582)									
Lh (ADOQ01008024)									
Dm (JX976930)									
Dm (JX976937)									
Dm (JX976938)									
Ce (JX976929)									
Dm (JX976934)									
Ce (JX976928)									
Dm (JX976936)									
Mr (AFJA01008902)									
Mr (AFJA01006736)									
Dm (JX976932)									
Dm (JX976933)									
Si (AEAQ01010279)									
Si (AEAQ01009575)	ID								
Cf (AEAB01001421)	0.784	ID							
Cf (AEAB01018477)	0.784		1,000 ID						
Ee (EEu_Mariner_Tbel)	0.794	0.822	0.822	ID					
Pb (PBa_Mariner_Tbel)	0.846	0.871	0.871	0.925	ID				
Tb (Mariner_Tbel)	0.838	0.863	0.863	0.933	0.983	ID			
Hs (HSal_Mariner_Tbel)	0.842	0.867	0.867	0.938	0.987	0.995	ID		
Hs (Mariner-22_HSal)	0.621	0.710	0.710	0.689	0.714	0.718	0.722	ID	
Ae (Mariner-16_AEc)	0.557	0.616	0.616	0.608	0.624	0.624	0.628	0.648	ID
Ae (AEc_Mariner-8_SIn)	0.585	0.632	0.632	0.640	0.653	0.653	0.657	0.677	0.787
Si (Mariner-8_SIn)	0.589	0.640	0.640	0.644	0.657	0.657	0.661	0.677	0.795
Bts (Mariner-1_Bts)	0.608	0.655	0.655	0.686	0.692	0.692	0.696	0.677	0.636
Am (AMe_FAMAR1)	0.608	0.663	0.663	0.680	0.680	0.680	0.684	0.661	0.697
Fa (FAMAR1)	0.600	0.655	0.655	0.672	0.672	0.672	0.676	0.661	0.697
Hs (Mariner-2_HSal)	0.620	0.659	0.659	0.704	0.696	0.700	0.704	0.677	0.661
Hs (Mariner-42_HSal)	0.608	0.688	0.688	0.688	0.713	0.713	0.717	0.718	0.628
Ac (Mariner-13_ACe)	0.616	0.696	0.696	0.709	0.721	0.721	0.725	0.722	0.648
Ae (AEVX01012963)	0.604	0.684	0.684	0.696	0.709	0.709	0.713	0.710	0.653
Cc_4	0.495	0.525	0.525	0.508	0.524	0.528	0.528	0.510	0.465
Cc_6	0.506	0.560	0.560	0.524	0.545	0.545	0.545	0.526	0.465
Cc_5	0.493	0.534	0.534	0.512	0.528	0.528	0.533	0.514	0.457
Cc_7	0.489	0.534	0.534	0.508	0.524	0.524	0.528	0.518	0.461
Cc (JX976920)	0.585	0.655	0.655	0.628	0.623	0.619	0.623	0.620	0.546
Cc (JX976921)	0.556	0.615	0.615	0.615	0.603	0.603	0.607	0.595	0.530
Cc (JX976922)	0.576	0.650	0.650	0.640	0.628	0.623	0.628	0.620	0.542
Cc (JX976923)	0.564	0.621	0.621	0.623	0.611	0.611	0.615	0.604	0.538
Dm (JX976931)	0.551	0.595	0.595	0.616	0.586	0.586	0.590	0.571	0.514
Ce (JX976927)	0.621	0.679	0.679	0.673	0.665	0.661	0.665	0.644	0.559
Dm (JX976935)	0.643	0.693	0.693	0.677	0.665	0.661	0.665	0.640	0.563
Ce (JX976926)	0.634	0.676	0.676	0.673	0.661	0.661	0.665	0.636	0.559
Ce (JX976924)	0.627	0.676	0.676	0.685	0.677	0.673	0.677	0.648	0.567
Ce (JX976925)	0.639	0.672	0.672	0.677	0.665	0.665	0.669	0.632	0.563
Hs (Mariner-36_HSal)	0.668	0.721	0.721	0.733	0.745	0.750	0.754	0.734	0.657
Hs (Mariner-23_HSal)	0.682	0.728	0.728	0.740	0.777	0.777	0.781	0.738	0.669
Pb (PBa_Mariner23_HSal)	0.682	0.703	0.703	0.716	0.761	0.753	0.757	0.710	0.640
Ca (Mariner_CA)	0.672	0.754	0.754	0.745	0.774	0.774	0.778	0.771	0.714
Si (Mariner-24_SIn)	0.603	0.670	0.670	0.715	0.711	0.719	0.723	0.692	0.647
Sm (SMAR7)	0.612	0.680	0.680	0.695	0.709	0.717	0.721	0.702	0.661
Af (Mariner-1_AFI)	0.648	0.655	0.655	0.692	0.713	0.713	0.717	0.677	0.640
Hs (Mariner-11_HSal)	0.668	0.704	0.704	0.766	0.766	0.774	0.778	0.710	0.665
Hs (Mariner-16_HSal)	0.601	0.612	0.612	0.628	0.648	0.648	0.653	0.689	0.718
Der (Mariner-2_DEr)	0.553	0.600	0.600	0.620	0.624	0.628	0.632	0.632	0.746
Hs (Mariner-46_HSal)	0.549	0.620	0.620	0.624	0.640	0.636	0.640	0.648	0.755
Del (Mariner-2_DEl)	0.553	0.632	0.632	0.624	0.636	0.632	0.636	0.624	0.697
Del (Mariner-1_DEl)	0.525	0.600	0.600	0.600	0.600	0.604	0.608	0.624	0.702
Bt (Mariner-1_BT)	0.577	0.620	0.620	0.620	0.632	0.632	0.636	0.689	0.657
Ac (Mariner-5_ACe)	0.592	0.639	0.639	0.643	0.659	0.659	0.663	0.677	0.673
Si (Mariner-28_SIn)	0.596	0.651	0.651	0.618	0.663	0.655	0.659	0.706	0.628

Sequences	Ae (AEc_Mariner-8_Sln)	Si (Mariner-8_Sln)	Bte (Mariner-1_BTe)	Am (AMe_FAMAR1)	Fa (FAMAR1)	Hs (Mariner-2_HSal)	Hs (Mariner-42_HSal)	Ac (Mariner-13_ACe)	Ae (AEVX01012963)	Cc_4	Cc_6
Hs (Mariner-47_HSal)											
Hs (Mariner-45_HSal)											
Cf (Mariner-6_CF)											
Hs (Mariner-35_HSal)											
Df (Mariner-1_DF)											
Ac (Mariner-1_ACe)											
Lh (ADOQ01001682)											
Lh (ADOQ01008024)											
Dm (JX976930)											
Dm (JX976937)											
Dm (JX976938)											
Ce (JX976929)											
Dm (JX976934)											
Ce (JX976928)											
Dm (JX976936)											
Mr (AFJA01006902)											
Mr (AFJA01006736)											
Dm (JX976932)											
Dm (JX976933)											
Si (AEAQ01010279)											
Si (AEAQ01009575)											
Cf (AEAB01001421)											
Cf (AEAB01018477)											
Ee (EEu_Mariner_Tbel)											
Pb (PBa_Mariner_Tbel)											
Tb (Mariner_Tbel)											
Hs (HSal_Mariner_Tbel)											
Hs (Mariner-22_HSal)											
Ae (Mariner-16_AEc)											
Ae (AEc_Mariner-8_Sln)	ID										
Si (Mariner-8_Sln)	0.975	ID									
Bte (Mariner-1_Bte)	0.657	0.665	ID								
Am (AMe_FAMAR1)	0.697	0.702	0.807	ID							
Fa (FAMAR1)	0.689	0.693	0.807	0.991	ID						
Hs (Mariner-2_HSal)	0.681	0.693	0.844	0.901	0.901	ID					
Hs (Mariner-42_HSal)	0.653	0.657	0.733	0.729	0.721	0.770	ID				
Ac (Mariner-13_ACe)	0.685	0.689	0.745	0.750	0.741	0.774	0.856	ID			
Ae (AEVX01012963)	0.689	0.693	0.745	0.750	0.741	0.774	0.848	0.983			
Cc_4	0.473	0.477	0.580	0.577	0.569	0.581	0.598	0.614	ID		
Cc_6	0.473	0.485	0.600	0.590	0.581	0.606	0.627	0.631	0.622	ID	
Cc_5	0.473	0.477	0.580	0.573	0.565	0.581	0.602	0.610	0.606	0.925	0.886
Cc_7	0.477	0.481	0.580	0.573	0.565	0.581	0.598	0.606	0.602	0.936	0.896
Cc (JX976920)	0.571	0.583	0.691	0.696	0.688	0.717	0.733	0.733	0.729	0.673	0.714
Cc (JX976921)	0.559	0.563	0.670	0.659	0.651	0.680	0.713	0.692	0.684	0.663	0.646
Cc (JX976922)	0.575	0.579	0.691	0.688	0.680	0.709	0.737	0.725	0.717	0.639	0.670
Cc (JX976923)	0.567	0.571	0.679	0.668	0.659	0.688	0.721	0.700	0.692	0.665	0.648
Dm (JX976931)	0.538	0.542	0.631	0.618	0.610	0.639	0.655	0.668	0.659	0.587	0.576
Ce (JX976927)	0.604	0.616	0.720	0.696	0.692	0.750	0.778	0.770	0.762	0.666	0.681
Dm (JX976935)	0.608	0.620	0.724	0.709	0.704	0.754	0.774	0.774	0.766	0.652	0.683
Ce (JX976926)	0.604	0.616	0.720	0.692	0.688	0.745	0.770	0.762	0.754	0.682	0.673
Ce (JX976924)	0.616	0.628	0.724	0.709	0.704	0.762	0.782	0.774	0.766	0.663	0.678
Ce (JX976925)	0.608	0.620	0.716	0.696	0.692	0.750	0.766	0.758	0.750	0.675	0.669
Hs (Mariner-36_HSal)	0.681	0.689	0.717	0.717	0.709	0.729	0.733	0.733	0.721	0.520	0.545
Hs (Mariner-23_HSal)	0.689	0.697	0.729	0.721	0.713	0.713	0.704	0.737	0.729	0.559	0.572
Pb (PBa_Mariner23_HSal)	0.657	0.665	0.704	0.704	0.696	0.713	0.688	0.713	0.704	0.530	0.543
Ca (Mariner_CA)	0.763	0.779	0.737	0.750	0.741	0.750	0.766	0.782	0.774	0.553	0.565
Si (Mariner-24_Sln)	0.659	0.676	0.715	0.735	0.727	0.743	0.727	0.699	0.695	0.487	0.508
Sm (SMAR7)	0.677	0.693	0.704	0.717	0.709	0.725	0.717	0.704	0.692	0.491	0.512
Af (Mariner-1_AFI)	0.673	0.677	0.663	0.676	0.672	0.680	0.655	0.684	0.672	0.471	0.475
Hs (Mariner-11_HSal)	0.718	0.730	0.721	0.725	0.717	0.750	0.717	0.721	0.717	0.512	0.528
Hs (Mariner-16_HSal)	0.718	0.714	0.665	0.665	0.677	0.665	0.665	0.653	0.648	0.481	0.485
Der (Mariner-2_DEr)	0.751	0.751	0.628	0.640	0.640	0.640	0.624	0.616	0.608	0.436	0.436
Hs (Mariner-46_HSal)	0.755	0.755	0.669	0.677	0.677	0.685	0.657	0.653	0.640	0.461	0.473
Del (Mariner-2_DEl)	0.697	0.697	0.636	0.624	0.624	0.628	0.628	0.636	0.636	0.440	0.448
Del (Mariner-1_DEl)	0.738	0.738	0.608	0.600	0.600	0.608	0.628	0.608	0.604	0.440	0.440
Bt (Mariner-1_BT)	0.693	0.702	0.644	0.648	0.640	0.648	0.616	0.673	0.661	0.506	0.497
Ac (Mariner-5_ACe)	0.665	0.669	0.680	0.684	0.676	0.692	0.663	0.680	0.672	0.504	0.504
Si (Mariner-28_Sln)	0.693	0.693	0.663	0.643	0.635	0.631	0.659	0.672	0.676	0.483	0.491

Sequences	Hs (Mariner-23_HSal)	Pb (Pba_Mariner23_HSal)	Ca (Mariner_CA)	Si (Mariner-24_Sin)	Sm (SMAR7)	Af (Mariner-1_AfI)	Hs (Mariner-11_HSal)	Hs (Mariner-16_HSal)	Der (Mariner-2_DEr)
Hs (Mariner-47_HSal)									
Hs (Mariner-45_HSal)									
Cf (Mariner-6_CFI)									
Hs (Mariner-35_HSal)									
Df (Mariner-1_DF)									
Ac (Mariner-1_ACe)									
Lh (ADOQ01001582)									
Lh (ADOQ01008024)									
Dm (JX976930)									
Dm (JX976937)									
Dm (JX976938)									
Ce (JX976929)									
Dm (JX976934)									
Ce (JX976928)									
Dm (JX976936)									
Mr (AFJA01006902)									
Mr (AFJA01006736)									
Dm (JX976932)									
Dm (JX976933)									
Si (AEAQ01010279)									
Si (AEAQ01009575)									
Cf (AEAB01001421)									
Cf (AEAB01018477)									
Ee (EEu_Mariner_Tbel)									
Pb (Pba_Mariner_Tbel)									
Tb (Mariner_Tbel)									
Hs (HSal_Mariner_Tbel)									
Hs (Mariner-22_HSal)									
Ae (Mariner-16_AEc)									
Ae (AEc_Mariner-8_Sin)									
Si (Mariner-8_Sin)									
Bte (Mariner-1_Bte)									
Am (AMe_FAMAR1)									
Fa (FAMAR1)									
Hs (Mariner-2_HSal)									
Hs (Mariner-42_HSal)									
Ac (Mariner-13_ACe)									
Ae (AEVX01012963)									
Cc_4									
Cc_6									
Cc_5									
Cc_7									
Cc (JX976920)									
Cc (JX976921)									
Cc (JX976922)									
Cc (JX976923)									
Dm (JX976931)									
Ce (JX976927)									
Dm (JX976935)									
Ce (JX976926)									
Ce (JX976924)									
Ce (JX976925)									
Hs (Mariner-36_HSal)									
Hs (Mariner-23_HSal)	ID								
Pb (Pba_Mariner23_HSal)	0.950	ID							
Ca (Mariner_CA)	0.786	0.766	ID						
Si (Mariner-24_Sin)	0.723	0.707	0.747	ID					
Sm (SMAR7)	0.717	0.700	0.774	0.906	ID				
Af (Mariner-1_AfI)	0.737	0.725	0.729	0.804	0.823	ID			
Hs (Mariner-11_HSal)	0.754	0.729	0.811	0.808	0.790	0.823	ID		
Hs (Mariner-16_HSal)	0.661	0.640	0.726	0.635	0.648	0.640	0.722	ID	
Der (Mariner-2_DEr)	0.608	0.591	0.706	0.623	0.653	0.616	0.681	0.755	ID
Hs (Mariner-46_HSal)	0.628	0.612	0.726	0.631	0.644	0.595	0.677	0.726	0.840
Del (Mariner-2_DEI)	0.612	0.587	0.669	0.603	0.608	0.595	0.657	0.693	0.804
Del (Mariner-1_DEI)	0.604	0.575	0.689	0.611	0.624	0.583	0.657	0.685	0.804
Bt (Mariner-1_BT)	0.653	0.648	0.730	0.663	0.669	0.657	0.677	0.742	0.677
Ac (Mariner-5_ACe)	0.672	0.659	0.696	0.686	0.684	0.655	0.709	0.726	0.648
Si (Mariner-28_Sin)	0.672	0.684	0.741	0.630	0.643	0.622	0.680	0.722	0.644

Sequences	Hs (Mariner-46_HSal)	Del (Mariner-2_DEI)	Del (Mariner-1_Del)	Bt (Mariner-1_BT)	Ac (Mariner-5_Ac)	Si (Mariner-28_Sin)
Hs (Mariner-47_HSal)						
Hs (Mariner-45_HSal)						
Cf (Mariner-6_CFI)						
Hs (Mariner-35_HSal)						
Df (Mariner-1_DF)						
Ac (Mariner-1_Ac)						
Lh (ADOQ01001582)						
Lh (ADOQ01008024)						
Dm (JX976930)						
Dm (JX976937)						
Dm (JX976936)						
Ce (JX976929)						
Dm (JX976934)						
Ce (JX976928)						
Dm (JX976936)						
Mr (AFJA01006902)						
Mr (AFJA01006736)						
Dm (JX976932)						
Dm (JX976933)						
Si (AEAQ01010279)						
Si (AEAQ01009575)						
Cf (AEAB01001421)						
Cf (AEAB01018477)						
Ee (EEu_Mariner_Tbel)						
Pb (PBa_Mariner_Tbel)						
Tb (Mariner_Tbel)						
Hs (HSa_Mariner_Tbel)						
Hs (Mariner-22_HSal)						
Ae (Mariner-16_AEc)						
Ae (Aec_Mariner-8_Sin)						
Si (Mariner-8_Sin)						
Bte (Mariner-1_Bte)						
Am (Ame_FAMAR1)						
Fa (FAMAR1)						
Hs (Mariner-2_HSal)						
Hs (Mariner-42_HSal)						
Ac (Mariner-13_Ac)						
Ae (AEVX01012963)						
Cc_4						
Cc_6						
Cc_5						
Cc_7						
Cc (JX976920)						
Cc (JX976921)						
Cc (JX976922)						
Cc (JX976923)						
Dm (JX976931)						
Ce (JX976927)						
Dm (JX976935)						
Ce (JX976926)						
Ce (JX976924)						
Ce (JX976925)						
Hs (Mariner-36_HSal)						
Hs (Mariner-23_HSal)						
Pb (PBa_Mariner23_HSal)						
Ca (Mariner_CA)						
Si (Mariner-24_Sin)						
Sm (SMAR7)						
At (Mariner-1_AFI)						
Hs (Mariner-11_HSal)						
Hs (Mariner-16_HSal)						
Der (Mariner-2_DEr)						
Hs (Mariner-46_HSal)	ID					
Del (Mariner-2_DEI)	0.775	ID				
Del (Mariner-1_DEI)	0.787	0.820	ID			
Bt (Mariner-1_BT)	0.636	0.628	0.644			
Ac (Mariner-5_Ac)	0.644	0.616	0.575	0.742	ID	
Si (Mariner-28_Sin)	0.665	0.644	0.616	0.742	0.745	ID