

**Supplemental Table.**

Estimates and uncertainties of resonance frequencies, amplitudes, and linewidths derived from decay-rate constants ( $R2^*$ ), for the spectra in Figure 8 are summarized in Table S1 below.

<b>Control</b>	<b>Lac</b>		<b>Glx</b>		<b>Glc</b>		<b>HOD</b>	
	<b>Mean</b>	<b>SD</b>	<b>Mean</b>	<b>SD</b>	<b>Mean</b>	<b>SD</b>	<b>Mean</b>	<b>SD</b>
<b>Frequency (ppm)</b>	1.36	0.03	2.37	0.02	3.85	0.02	4.71	0.01
<b>Linewidth (Hz)</b>	11.7	3.4	12.6	3.6	17.1	2.5	19.6	1.7
<b>Amplitude</b>	109	38	187	40	411	44	973	39

<b>Tumor</b>	<b>Lac</b>		<b>Glx</b>		<b>Glc</b>		<b>HOD</b>	
	<b>Mean</b>	<b>SD</b>	<b>Mean</b>	<b>SD</b>	<b>Mean</b>	<b>SD</b>	<b>Mean</b>	<b>SD</b>
<b>Frequency (ppm)</b>	1.33	0.02	2.39	0.05	3.76	0.01	4.72	0.01
<b>Linewidth (Hz)</b>	13.3	2.9	12.4	8.9	24.4	3.5	21.2	1.2
<b>Amplitude</b>	368	31	58	20	752	44	1318	38

<b>Radiation Necrosis</b>	<b>Lac</b>		<b>Glx</b>		<b>Glc</b>		<b>HOD</b>	
	<b>Mean</b>	<b>SD</b>	<b>Mean</b>	<b>SD</b>	<b>Mean</b>	<b>SD</b>	<b>Mean</b>	<b>SD</b>
<b>Frequency (ppm)</b>	1.32	0.03	2.36	0.03	3.81	0.02	4.70	0.01
<b>Linewidth (Hz)</b>	10.6	5.3	13.1	5.4	20.6	4.1	18.5	1.3
<b>Amplitude</b>	111	24	123	28	385	34	858	31