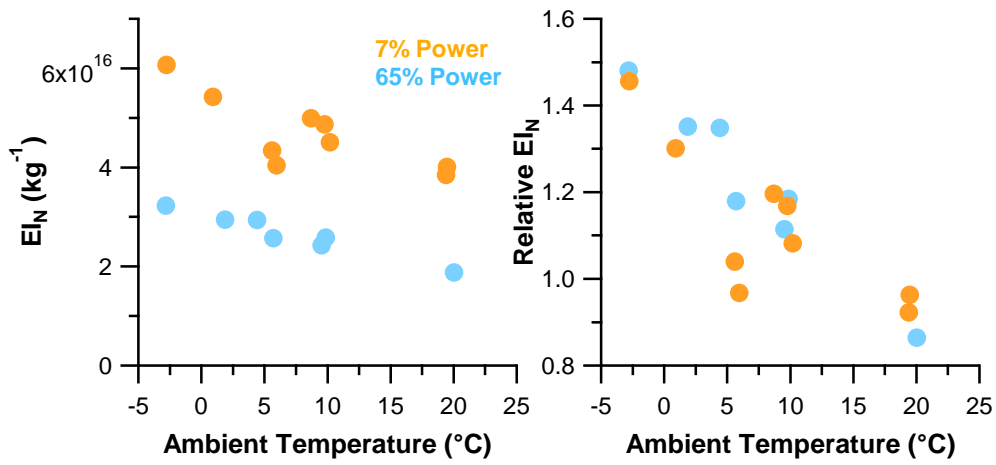


Supplemental Table 1. Fuel Properties.

	JP-8	Blend-1	FT-1	Blend-2	FT-2
Feedstock	Petroleum	Petroleum & Natural Gas	Natural Gas	Petroleum & Coal	Coal
Sulfur (ppm by mass)	1148	699	19	658	22
Alkanes (% vol.)	50	not measured	>99	not measured	88
Alkenes (% vol.)	0.9	0.6	0	3.3	3.8
Aromatics (% vol.)	18.6	8	0	9.1	0.6
Naphthalenes (% vol.)	1.6	0.8	0	0.8	0
Flash Point (°C)	46	43	41	46	42
Specific Gravity <sup>a</sup>	0.82	0.78	0.74	0.79	0.76
Freezing Point (°C)	-50	-60	-54	-60	<-80
Viscosity at -20°C (mm <sup>2</sup> /s)	4.7	3.3	2.6	4.1	3.6
Cetane Index	41	46	58	45	51
H Content (% mass)	13.6	14.5	15.5	14.3	15.1
Heat of Combust. (MJ/kg)	43.3	43.8	44.4	43.8	44.1
Fuel H/C ratio	1.88	2.02	2.19	1.99	2.12

<sup>a</sup>Specific gravity is defined as the density of the fuel relative to water (dimensionless)



Supplemental Figure 1. JP-8  $EI_N$  as a function of temperature for 7 and 65% power (left). On the right, the  $EI_N(T)$  is plotted relative to the interpolated  $EI_N$  at  $15^{\circ}\text{C}$  (the ICAO standard temperature).