

Table S1. Physical properties of the diesel fuel.

Physical property	value	Physical property	value
Specific gravity@15.5°C	0.8333	Colour	0.9
API at 60F	38.31	Initial boiling point (°C)	165
Total sulfur, (ppm)	9	Distillation, (°C)	
Kinematic viscosity@40°C (mm ² /sec)	3.15	10%	202
Cetane Index	53.9	50%	276
Flash point, (°C)	61	90%	338
Pour point, (°C)	< - 20	Final boiling point (°C)	357

Table S2. Specifications of DBT and hydrogen peroxide.

Properties	DBT	Hydrogen peroxide
Chemical formula	C ₁₂ H ₈ S	H ₂ O ₂
Molecular weight	184.25	Liquid
Physical form	Solid	21.11
Purity	98 %	9.0 – 31.0 %