Table 1. Temperature and Directional Dependent Aerosols added to the POSEIDON Aerosol Database

Chemical Formula (1)	Reference (2)	Polymorph (3)	T (K) (4)	Direction (5)	Notes (6)	(Min, Max) µm (7)
Hibonite						
$CaAl_{12}O_{19}$	H. Mutschke et al. (2002)[D]	Crystal		Extraordinary (E∥c)	Natural	(2.00,30)
$CaAl_{12}O_{19}$	H. Mutschke et al. (2002)[D]	Crystal		Ordinary (E⊥c)	Natural	(2.00,30)
Corundum						
Al_2O_3	B. Begemann et al. (1997)[D]	Amorphous			Compact	(7.81, 30)
Al_2O_3	B. Begemann et al. (1997)[D]	Amorphous			Porous	(7.81, 30)
Al_2O_3	S. Zeidler et al. (2013)[D]	α Crystal	300K	Extraordinary (E∥c)	Synthetic	(6.67,30)
Al_2O_3	S. Zeidler et al. (2013)[D]	α Crystal	551K	Extraordinary (E∥c)	Synthetic	(6.67,30)
Al_2O_3	S. Zeidler et al. (2013)[D]	α Crystal	738K	Extraordinary (E∥c)	Synthetic	(6.67,30)
Al_2O_3	S. Zeidler et al. (2013)[D]	α Crystal	928K	Extrardinary (E∥c)	Synthetic	(6.67,30)
Al_2O_3	S. Zeidler et al. (2013)[D]	α Crystal	300K	Ordinary (E⊥c)	Synthetic	(6.67,30)
Al_2O_3	S. Zeidler et al. (2013)[D]	α Crystal	551K	Ordinary (E⊥c)	Synthetic	(6.67,30)
Al_2O_3	S. Zeidler et al. (2013)[D]	α Crystal	738K	Ordinary (E⊥c)	Synthetic	(6.67,30)
Al_2O_3	S. Zeidler et al. (2013)[D]	α Crystal	928K	Ordinary (E⊥c)	Synthetic	(6.67,30)
Spinel						
$MgAl_2O_4$	D. Fabian et al. (2001b)[D]	Crystal			Natural	(2, 30)
$MgAl_2O_4$	D. Fabian et al. (2001b)[D]	Crystal	1223K		Natural, Annealed	(1.67, 30)
$MgAl_2O_4$	S. Zeidler et al. (2013)[D]	Crystal	10K		Synthetic	(7.70, 30)
$MgAl_2O_4$	S. Zeidler et al. (2013)[D]	Crystal	100K		Synthetic	(7.70, 30)
$MgAl_2O_4$	S. Zeidler et al. (2013)[D]	Crystal	300K		Synthetic	(6.71, 30)
$MgAl_2O_4$	S. Zeidler et al. (2013)[D]	Crystal	551K		Synthetic	(6.71, 30)
$MgAl_2O_4$	S. Zeidler et al. (2013)[D]	Crystal	738K		Synthetic	(6.71, 30)
$MgAl_2O_4$	S. Zeidler et al. (2013)[D]	Crystal	928K		Synthetic	(6.71, 30)
Fayalite						
Fe_2SiO_4	D. Fabian et al. (2001a)[D]	Crystal		E∥z ((E∥c*)	Synthetic	(2, 30)
Fe_2SiO_4	D. Fabian et al. (2001a)[D]	Crystal		E∥y (E∥b*)	Synthetic	(2, 30)
Fe_2SiO_4	D. Fabian et al. (2001a)[D]	Crystal		E∥x (E∥a*)	Synthetic	(2, 30)
Titanium Dioxide						
TiO_2	T. Posch et al. (2003)[D] S. Zeidler et al. (2011)[D]	Anatase Crystal		Extraordinary (E∥c)		(2, 30)
TiO_2	T. Posch et al. (2003)[D] S. Zeidler et al. (2011)[D]	Anatase Crystal		Ordinary (E⊥c)		(2, 30)
TiO_2	T. Posch et al. (2003)[D] S. Zeidler et al. (2011)[D]	Rutile Crystal		Extraordinary (E∥c)		(0.47, 30)
TiO_2	T. Posch et al. (2003)[D] S. Zeidler et al. (2011)[D]	Rutile Crystal		Ordinary (E⊥c)		(0.47, 30)
TiO_2	T. Posch et al. (2003)[D] S. Zeidler et al. (2011)[D]	Brookite Crystal		E∥z (E∥c*)		(2, 30)
TiO_2	T. Posch et al. (2003)[D] S. Zeidler et al. (2011)[D]	Brookite Crystal		E∥y (E∥b*)		(2, 30)
TiO_2	T. Posch et al. (2003)[D] S. Zeidler et al. (2011)[D]	Brookite Crystal		E∥x (E∥a*)		(2, 30)
Silicon Dioxide						
SiO_2	S. Zeidler et al. (2013)[D]	α Quartz Crystal	300K	Extraordinary (E∥c)	Natural (Brazil)	(6.26,30)
SiO_2	S. Zeidler et al. (2013)[D]	α Quartz Crystal	551K	Extraordinary (E∥c)	Natural (Brazil)	(6.26,30)
SiO_2	S. Zeidler et al. (2013)[D]	α Quartz Crystal	738K	Extraordinary (E∥c)	Natural (Brazil)	(6.26,30)
SiO_2	S. Zeidler et al. (2013)[D]	α Quartz Crystal	833K	Extraordinary (E∥c)	Natural (Brazil)	(6.26,30)
SiO_2	S. Zeidler et al. (2013)[D]	β Quartz Crystal	928K	Extraordinary (E∥c)	Natural (Brazil)	(6.26,30)
SiO_2	S. Zeidler et al. (2013)[D]	α Quartz Crystal	300K	Ordinary (E⊥c)	Natural (Brazil)	(6.26,30)
SiO_2	S. Zeidler et al. (2013)[D]	α Quartz Crystal	551K	Ordinary (E⊥c)	Natural (Brazil)	(6.26,30)
SiO_2	S. Zeidler et al. (2013)[D]	α Quartz Crystal	738K	Ordinary (E⊥c)	Natural (Brazil)	(6.26,30)
SiO_2	S. Zeidler et al. (2013)[D]	α Quartz Crystal	833K	Ordinary (E⊥c)	Natural (Brazil)	(6.26,30)
SiO_2	S. Zeidler et al. (2013)[D]	β Quartz Crystal	928K	Ordinary (E⊥c)	Natural (Brazil)	(6.26,30)
SiO_2	D. D. S. Meneses et al. (2014)	α Quartz Crystal	295K	A2-symmetry (E∥c)	Cut Crystal	(6.67,30)
SiO_2	D. D. S. Meneses et al. (2014)	α Quartz Crystal	295K	E-symmetry (E⊥c)	Cut Crystal	(6.67,30)
SiO_2	D. D. S. Meneses et al. (2014)	α Quartz Crystal	346K	E-symmetry (E⊥c)	Cut Crystal	(6.67,30)
SiO_2	D. D. S. Meneses et al. (2014)	α Quartz Crystal	480K	E-symmetry (E⊥c)	Cut Crystal	(6.67,30)
SiO_2	D. D. S. Meneses et al. (2014)	α Quartz Crystal	600K	E-symmetry (E⊥c)	Cut Crystal	(6.67,30)
SiO_2	D. D. S. Meneses et al. (2014)	α Quartz Crystal	705K	E-symmetry (E⊥c)	Cut Crystal	(6.67,30)
SiO_2	D. D. S. Meneses et al. (2014)	α Quartz Crystal	790K	E-symmetry (E⊥c)	Cut Crystal	(6.67,30)
SiO_2	D. D. S. Meneses et al. (2014)	β Quartz Crystal	1010K	E-symmetry (E⊥c)	Cut Crystal	(6.67,30)
SiO_2	D. D. S. Meneses et al. (2014)	β Quartz Crystal	1125K	E-symmetry (E⊥c)	Cut Crystal	(6.67,30)
SiO_2	D. D. S. Meneses et al. (2014)	β Quartz Crystal	1170K	E-symmetry (E⊥c)	Cut Crystal	(6.67,30)
SiO_2	D. D. S. Meneses et al. (2014)	β Quartz Crystal	1310K	E-symmetry (E⊥c)	Cut Crystal	(6.67,30)
SiO_2	D. D. S. Meneses et al. (2014)	β Quartz Crystal	1394K	E-symmetry (E⊥c)	Cut Crystal	(6.67,30)
SiO_2	D. D. S. Meneses et al. (2014)	β Quartz Crystal	1520K	E-symmetry (E⊥c)	Cut Crystal	(6.67,30)
SiO_2	D. D. S. Meneses et al. (2014)	β Quartz Crystal	1590K	E-symmetry (E⊥c)	Cut Crystal	(6.67,30)
SiO_2	D. D. S. Meneses et al. (2014)	β Quartz Crystal	1646K	E-symmetry (E⊥c)	Cut Crystal	(6.67,30)
SiO_2	D. D. S. Meneses et al. (2014)	β Cristobalite Crystal	1810K	E-symmetry (E⊥c)	Cut Crystal	(6.67,30)

Table 1 *continued*

Table 1 *(continued)*

Chemical Formula (1)	Reference (2)	Polymorph (3)	T (K) (4)	Direction (5)	Notes (6)	(Min, Max) µm (7)
SiO_2	D. D. S. Meneses et al. (2014)	β Cristobalite Crystal	1880K	E-symmetry (E⊥c)	Cut Crystal	(6.67,30)
SiO_2	S. E. Moran et al. (2024)	β Tridymite Crystal	295K		Extrapolated	(0.30,15)
SiO_2	S. E. Moran et al. (2024)	β Tridymite Crystal	500K		Extrapolated	(0.30,15)
SiO_2	S. E. Moran et al. (2024)	α Cristobalite Crystal	295K		Extrapolated	(0.30,15)
Olivine						
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	295K	B1U (E‖c)	Synthetic	(2.5,30)
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	546K	B1U (E‖c)	Synthetic	(2.5,30)
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	950K	B1U (E‖c)	Synthetic	(2.5,30)
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	1102K	B1U (E‖c)	Synthetic	(2.5,30)
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	1147K	B1U (E‖c)	Synthetic	(2.5,30)
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	1431K	B1U (E‖c)	Synthetic	(2.5,30)
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	1518K	B1U (E‖c)	Synthetic	(2.5,30)
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	1648K	B1U (E‖c)	Synthetic	(2.5,30)
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	1742K	B1U (E‖c)	Synthetic	(2.5,30)
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	1809K	B1U (E‖c)	Synthetic	(2.5,30)
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	295K	B2U (E‖b)	Synthetic	(2.5,30)
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	547K	B2U (E‖b)	Synthetic	(2.5,30)
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	720K	B2U (E‖b)	Synthetic	(2.5,30)
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	946K	B2U (E‖b)	Synthetic	(2.5,30)
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	1122K	B2U (E‖b)	Synthetic	(2.5,30)
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	1303K	B2U (E‖b)	Synthetic	(2.5,30)
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	1417K	B2U (E‖b)	Synthetic	(2.5,30)
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	1535K	B2U (E‖b)	Synthetic	(2.5,30)
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	1617K	B2U (E‖b)	Synthetic	(2.5,30)
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	1818K	B2U (E‖b)	Synthetic	(2.5,30)
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	295K	B3U (E‖a)	Synthetic	(2.5,30)
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	602K	B3U (E‖a)	Synthetic	(2.5,30)
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	757K	B3U (E‖a)	Synthetic	(2.5,30)
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	918K	B3U (E‖a)	Synthetic	(2.5,30)
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	1055K	B3U (E‖a)	Synthetic	(2.5,30)
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	1131K	B3U (E‖a)	Synthetic	(2.5,30)
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	1256K	B3U (E‖a)	Synthetic	(2.5,30)
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	1503K	B3U (E‖a)	Synthetic	(2.5,30)
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	1793K	B3U (E‖a)	Synthetic	(2.5,30)
Mg_2SiO_4	M. Eckes et al. (2013)	Crystal	1948K	B3U (E‖a)	Synthetic	(2.5,30)
$Mg_{1.9}Fe_{0.1}SiO_4$	S. Zeidler et al. (2011)[D]	Crystal		E‖z (E‖a)	Natural (Stubachtal)	(2,30)
$Mg_{1.9}Fe_{0.1}SiO_4$	S. Zeidler et al. (2011)[D]	Crystal		E‖y (E‖b)	Natural (Stubachtal)	(2,30)
$Mg_{1.9}Fe_{0.1}SiO_4$	S. Zeidler et al. (2011)[D]	Crystal		E‖x (E‖c)	Natural (Stubachtal)	(2,30)
$Mg_{1.72}Fe_{0.21}SiO_4$	S. Zeidler et al. (2015)[D]	Crystal		E‖z (E‖a)	Natural (San Carlos)	(0.32,6.99)
$Mg_{1.72}Fe_{0.21}SiO_4$	S. Zeidler et al. (2015)[D]	Crystal		E‖y (E‖b)	Natural (San Carlos)	(0.32,6.99)
$Mg_{1.72}Fe_{0.21}SiO_4$	S. Zeidler et al. (2015)[D]	Crystal		E‖x (E‖c)	Natural (San Carlos)	(0.32,6.99)
$Mg_{1.72}Fe_{0.21}SiO_4$	S. Zeidler et al. (2015)[D]	Crystal	10K	E‖z (E‖a)	Natural (San Carlos)	(6.71,30)
$Mg_{1.72}Fe_{0.21}SiO_4$	S. Zeidler et al. (2015)[D]	Crystal	100K	E‖z (E‖a)	Natural (San Carlos)	(6.71,30)
$Mg_{1.72}Fe_{0.21}SiO_4$	S. Zeidler et al. (2015)[D]	Crystal	200K	E‖z (E‖a)	Natural (San Carlos)	(6.71,30)
$Mg_{1.72}Fe_{0.21}SiO_4$	S. Zeidler et al. (2015)[D]	Crystal	300K	E‖z (E‖a)	Natural (San Carlos)	(6.71,30)
$Mg_{1.72}Fe_{0.21}SiO_4$	S. Zeidler et al. (2015)[D]	Crystal	551K	E‖z (E‖a)	Natural (San Carlos)	(6.71,30)
$Mg_{1.72}Fe_{0.21}SiO_4$	S. Zeidler et al. (2015)[D]	Crystal	738K	E‖z (E‖a)	Natural (San Carlos)	(6.71,30)
$Mg_{1.72}Fe_{0.21}SiO_4$	S. Zeidler et al. (2015)[D]	Crystal	928K	E‖z (E‖a)	Natural (San Carlos)	(6.71,30)
$Mg_{1.72}Fe_{0.21}SiO_4$	S. Zeidler et al. (2015)[D]	Crystal	10K	E‖y (E‖b)	Natural (San Carlos)	(6.71,30)
$Mg_{1.72}Fe_{0.21}SiO_4$	S. Zeidler et al. (2015)[D]	Crystal	100K	E‖y (E‖b)	Natural (San Carlos)	(6.71,30)
$Mg_{1.72}Fe_{0.21}SiO_4$	S. Zeidler et al. (2015)[D]	Crystal	200K	E‖y (E‖b)	Natural (San Carlos)	(6.71,30)
$Mg_{1.72}Fe_{0.21}SiO_4$	S. Zeidler et al. (2015)[D]	Crystal	300K	E‖y (E‖b)	Natural (San Carlos)	(6.71,30)
$Mg_{1.72}Fe_{0.21}SiO_4$	S. Zeidler et al. (2015)[D]	Crystal	551K	E‖y (E‖b)	Natural (San Carlos)	(6.71,30)
$Mg_{1.72}Fe_{0.21}SiO_4$	S. Zeidler et al. (2015)[D]	Crystal	738K	E‖y (E‖b)	Natural (San Carlos)	(6.71,30)
$Mg_{1.72}Fe_{0.21}SiO_4$	S. Zeidler et al. (2015)[D]	Crystal	928K	E‖y (E‖b)	Natural (San Carlos)	(6.71,30)
$Mg_{1.72}Fe_{0.21}SiO_4$	S. Zeidler et al. (2015)[D]	Crystal	10K	E‖x (E‖c)	Natural (San Carlos)	(6.71,30)
$Mg_{1.72}Fe_{0.21}SiO_4$	S. Zeidler et al. (2015)[D]	Crystal	100K	E‖x (E‖c)	Natural (San Carlos)	(6.71,30)
$Mg_{1.72}Fe_{0.21}SiO_4$	S. Zeidler et al. (2015)[D]	Crystal	200K	E‖x (E‖c)	Natural (San Carlos)	(6.71,30)
$Mg_{1.72}Fe_{0.21}SiO_4$	S. Zeidler et al. (2015)[D]	Crystal	300K	E‖x (E‖c)	Natural (San Carlos)	(6.71,30)
$Mg_{1.72}Fe_{0.21}SiO_4$	S. Zeidler et al. (2015)[D]	Crystal	551K	E‖x (E‖c)	Natural (San Carlos)	(6.71,30)
$Mg_{1.72}Fe_{0.21}SiO_4$	S. Zeidler et al. (2015)[D]	Crystal	738K	E‖x (E‖c)	Natural (San Carlos)	(6.71,30)
$Mg_{1.72}Fe_{0.21}SiO_4$	S. Zeidler et al. (2015)[D]	Crystal	928K	E‖x (E‖c)	Natural (San Carlos)	(6.71,30)
Orthoenstatite						
$Mg_{0.92}Fe_{0.09}SiO_3$	S. Zeidler et al. (2015)[D]	Crystal	10K	E‖z (E‖c)	Natural (Burma)	(6.71,30)
$Mg_{0.92}Fe_{0.09}SiO_3$	S. Zeidler et al. (2015)[D]	Crystal	100K	E‖z (E‖c)	Natural (Burma)	(6.71,30)
$Mg_{0.92}Fe_{0.09}SiO_3$	S. Zeidler et al. (2015)[D]	Crystal	200K	E‖z (E‖c)	Natural (Burma)	(6.71,30)
$Mg_{0.92}Fe_{0.09}SiO_3$	S. Zeidler et al. (2015)[D]	Crystal	300K	E‖z (E‖c)	Natural (Burma)	(6.71,30)
$Mg_{0.92}Fe_{0.09}SiO_3$	S. Zeidler et al. (2015)[D]	Crystal	551K	E‖z (E‖c)	Natural (Burma)	(6.71,30)
$Mg_{0.92}Fe_{0.09}SiO_3$	S. Zeidler et al. (2015)[D]	Crystal	738K	E‖z (E‖c)	Natural (Burma)	(6.71,30)
$Mg_{0.92}Fe_{0.09}SiO_3$	S. Zeidler et al. (2015)[D]	Crystal	928K	E‖z (E‖c)	Natural (Burma)	(6.71,30)
$Mg_{0.92}Fe_{0.09}SiO_3$	S. Zeidler et al. (2015)[D]	Crystal	10K	E‖y (E‖a)	Natural (Burma)	(6.71,30)
$Mg_{0.92}Fe_{0.09}SiO_3$	S. Zeidler et al. (2015)[D]	Crystal	100K	E‖y (E‖a)	Natural (Burma)	(6.71,30)
$Mg_{0.92}Fe_{0.09}SiO_3$	S. Zeidler et al. (2015)[D]	Crystal	200K	E‖y (E‖a)	Natural (Burma)	(6.71,30)

Table 1 *continued*

Table 1 *(continued)*

Chemical Formula (1)	Reference (2)	Polymorph (3)	T (K) (4)	Direction (5)	Notes (6)	(Min, Max) µm (7)
$Mg_{0.92}Fe_{0.09}SiO_3$	S. Zeidler et al. (2015)[D]	Crystal	300K	E∥y (E∥a)	Natural (Burma)	(6.71,30)
$Mg_{0.92}Fe_{0.09}SiO_3$	S. Zeidler et al. (2015)[D]	Crystal	551K	E∥y (E∥a)	Natural (Burma)	(6.71,30)
$Mg_{0.92}Fe_{0.09}SiO_3$	S. Zeidler et al. (2015)[D]	Crystal	738K	E∥y (E∥a)	Natural (Burma)	(6.71,30)
$Mg_{0.92}Fe_{0.09}SiO_3$	S. Zeidler et al. (2015)[D]	Crystal	928K	E∥y (E∥a)	Natural (Burma)	(6.71,30)
$Mg_{0.92}Fe_{0.09}SiO_3$	S. Zeidler et al. (2015)[D]	Crystal	10K	E∥x (E∥b)	Natural (Burma)	(6.71,30)
$Mg_{0.92}Fe_{0.09}SiO_3$	S. Zeidler et al. (2015)[D]	Crystal	100K	E∥x (E∥b)	Natural (Burma)	(6.71,30)
$Mg_{0.92}Fe_{0.09}SiO_3$	S. Zeidler et al. (2015)[D]	Crystal	200K	E∥x (E∥b)	Natural (Burma)	(6.71,30)
$Mg_{0.92}Fe_{0.09}SiO_3$	S. Zeidler et al. (2015)[D]	Crystal	300K	E∥x (E∥b)	Natural (Burma)	(6.71,30)
$Mg_{0.92}Fe_{0.09}SiO_3$	S. Zeidler et al. (2015)[D]	Crystal	551K	E∥x (E∥b)	Natural (Burma)	(6.71,30)
$Mg_{0.92}Fe_{0.09}SiO_3$	S. Zeidler et al. (2015)[D]	Crystal	738K	E∥x (E∥b)	Natural (Burma)	(6.71,30)
$Mg_{0.92}Fe_{0.09}SiO_3$	S. Zeidler et al. (2015)[D]	Crystal	928K	E∥x (E∥b)	Natural (Burma)	(6.71,30)

NOTE—Aerosol refractive indices, alongside pre-computed Mie properties, added to the aerosol database featured in E. Mullens et al. (2024). Groups of aerosols: Hibonite, Corundum, Spinel, Fayalite, Titanium Dioxide, Silicon Dioxide, Olivine, Orthoenstatite. Chemical formula (1), reference to where refractive index data is from (2), polymorph (3), temperature (if applicable, 4), direction (if applicable, 5), notes (5), and minimum and maximum wavelength of refractive index (where the absolute minimum and maximum of the precomputed aerosol database is 0.2 and 30 µm, 6). [D] refers to refractive indices that can be found on the Database of Optical Constants for Cosmic Dust (DOCCD, https://www2.astro.uni-jena.de/Laboratory/OCDB/index.html). Note that special care must be taken for determining which notation correlates to E∥a,b,c for (orthorhombic) biaxial crystals. For the Mg_2SiO_4 refractive indices from M. Eckes et al. (2013), it is defined that B1U = E∥c, B2U = E∥b, B3U = E∥a (pers comm., D. D. S. Meneses). For the $Mg_{1.72}Fe_{0.21}SiO_4$ refractive indices E∥x=E∥c, E∥y=E∥b, E∥z=E∥a (assumed to be the same for $Mg_{1.9}Fe_{0.1}SiO_4$) and for the $Mg_{0.92}Fe_{0.09}SiO_3$ refractive indices E∥x=E∥b, E∥y=E∥a, E∥z=E∥c as defined on DOCCD. [*]We assume that both Fe_2SiO_4 in D. Fabian et al. (2001a) and TiO_2, Brookite in T. Posch et al. (2003) follow the same D_{2h} symmetry group as Mg_2SiO_4 (M. Eckes et al. 2013) and that E∥z = B1U = E∥c, E∥y = B2U = E∥b, E∥x = B3U = E∥a since neither text explicitly assigns their axes. Since in this work we only deal with orthorhombic biaxial crystals, we opt to use crystallographic axis notation (a,b,c) in lieu of optical direction notation (x,y,z). Note that monoclinic and triclinic crystal systems are biaxial and do not have optical directions corresponding to crystallographic axes.

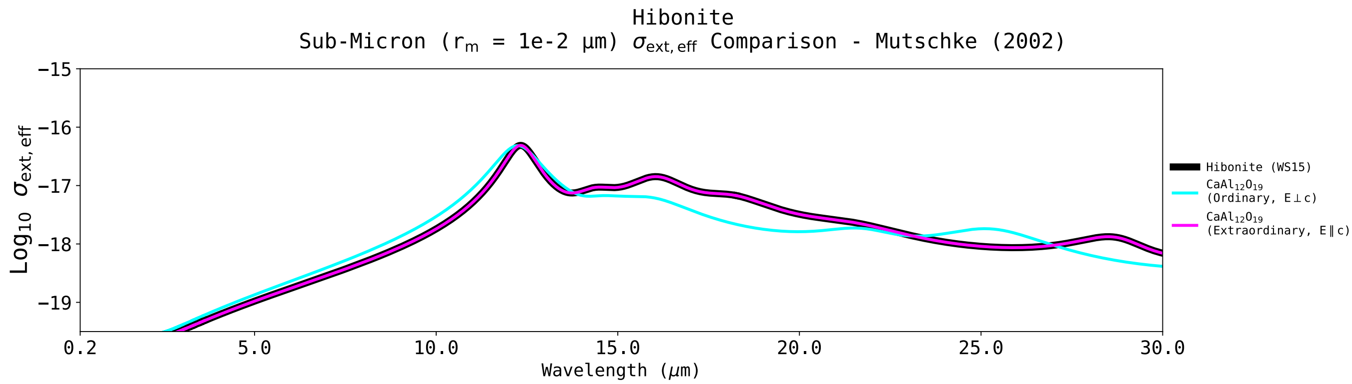

Figure 3. Comparison of effective extinction cross sections ($\sigma_{\rm ext,eff}$, mean particle radii = 0.01 µm with a lognormal distribution) computed from refractive indices used extensively in exoplanet literature vs those computed from temperature and/or directional-specific refractive indices. In this figure: Hibonite (H. Mutschke et al. 2002).

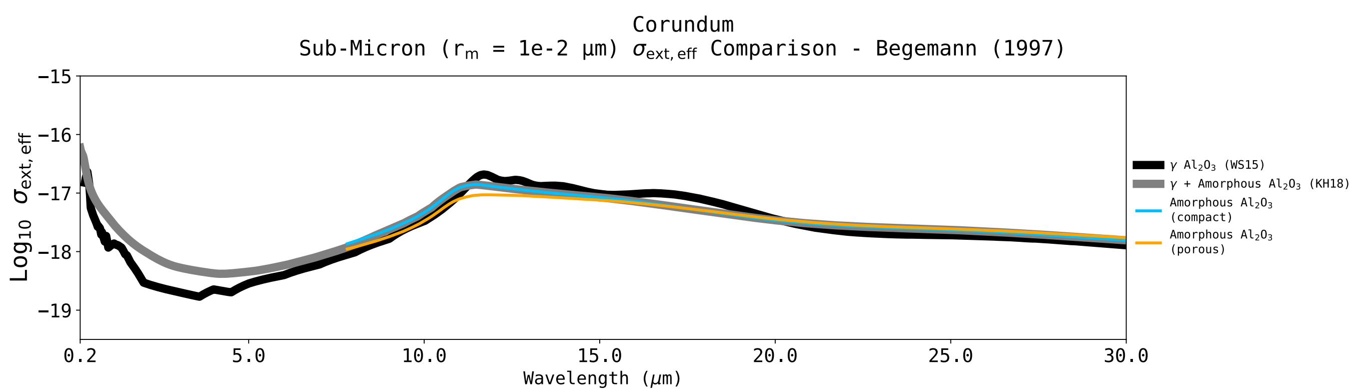

Figure 4. Same as Figure 3, but for Corundum (B. Begemann et al. 1997).

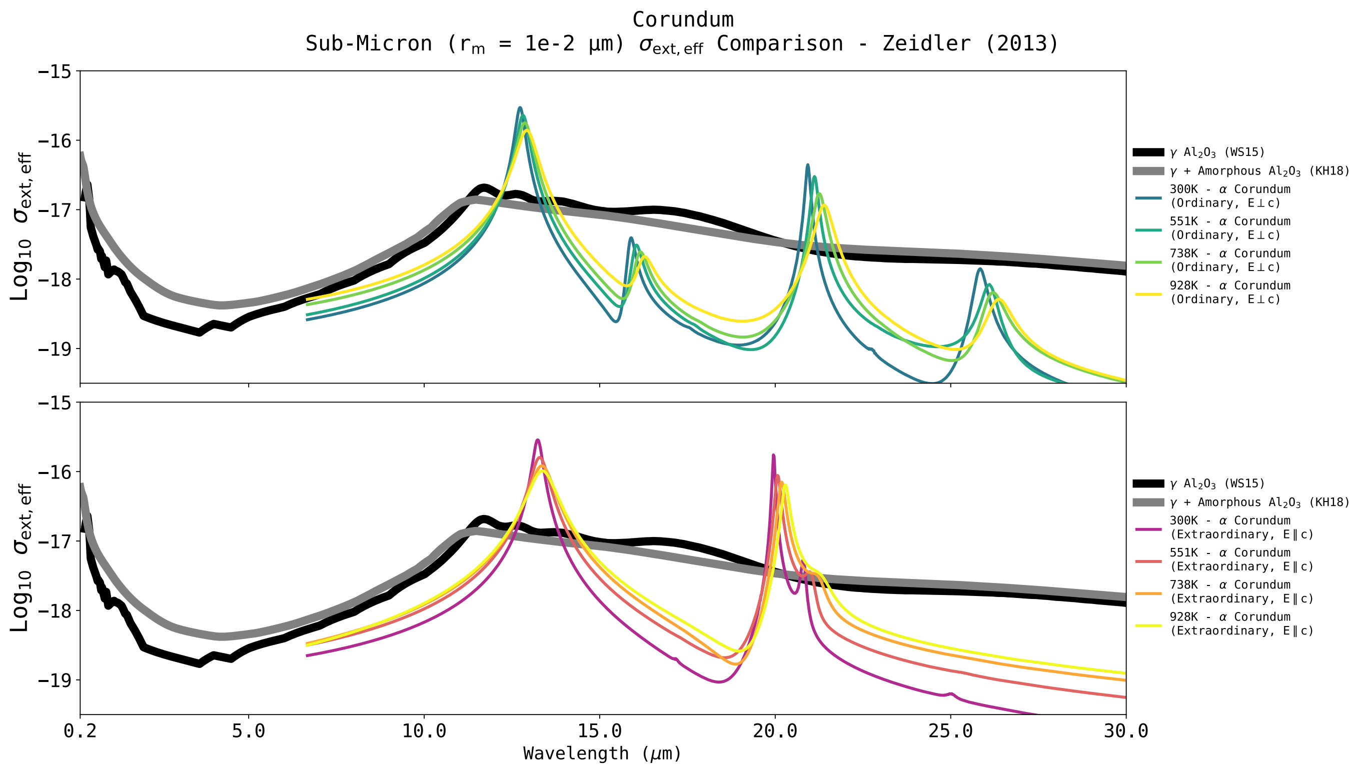

Figure 5. Same as Figure 3, but for Corundum (S. Zeidler et al. 2013).

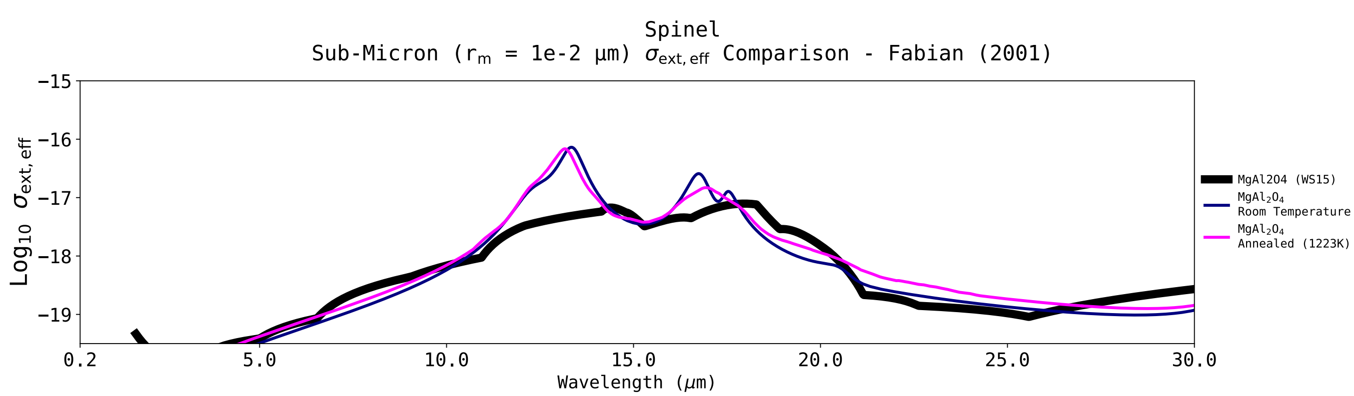

Figure 6. Same as Figure 3, but for Spinel (D. Fabian et al. 2001b).

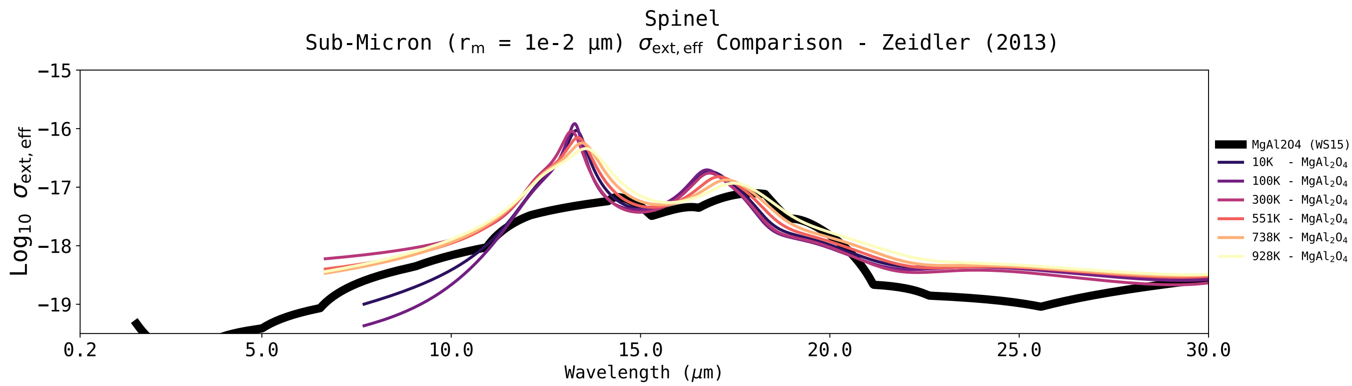

Figure 7. Same as Figure 3, but for Spinel (S. Zeidler et al. 2013).

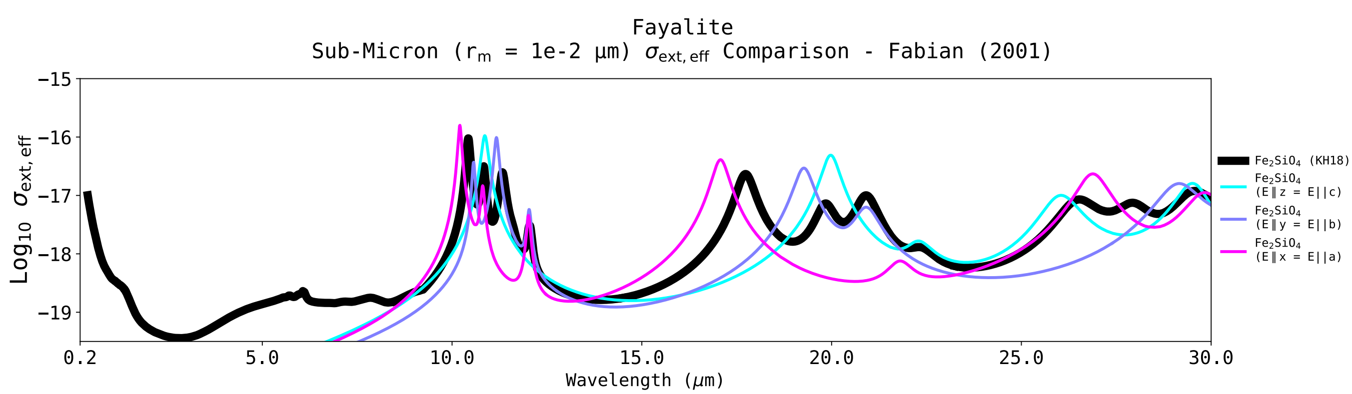

Figure 8. Same as Figure 3, but for Fayalite (D. Fabian et al. 2001a).

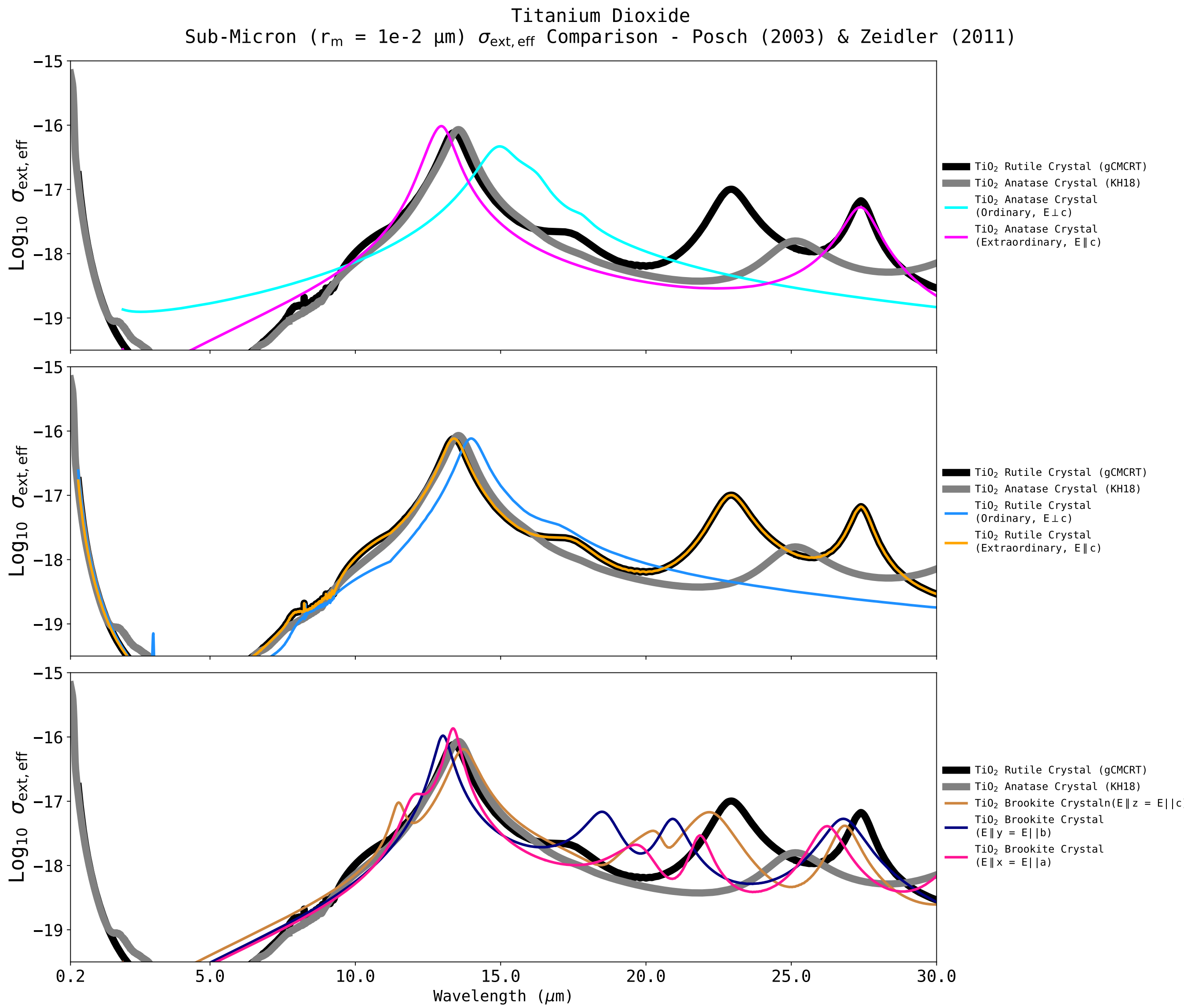

Figure 9. Same as Figure 3, but for Titanium-Dioxide (T. Posch et al. 2003; S. Zeidler et al. 2011).

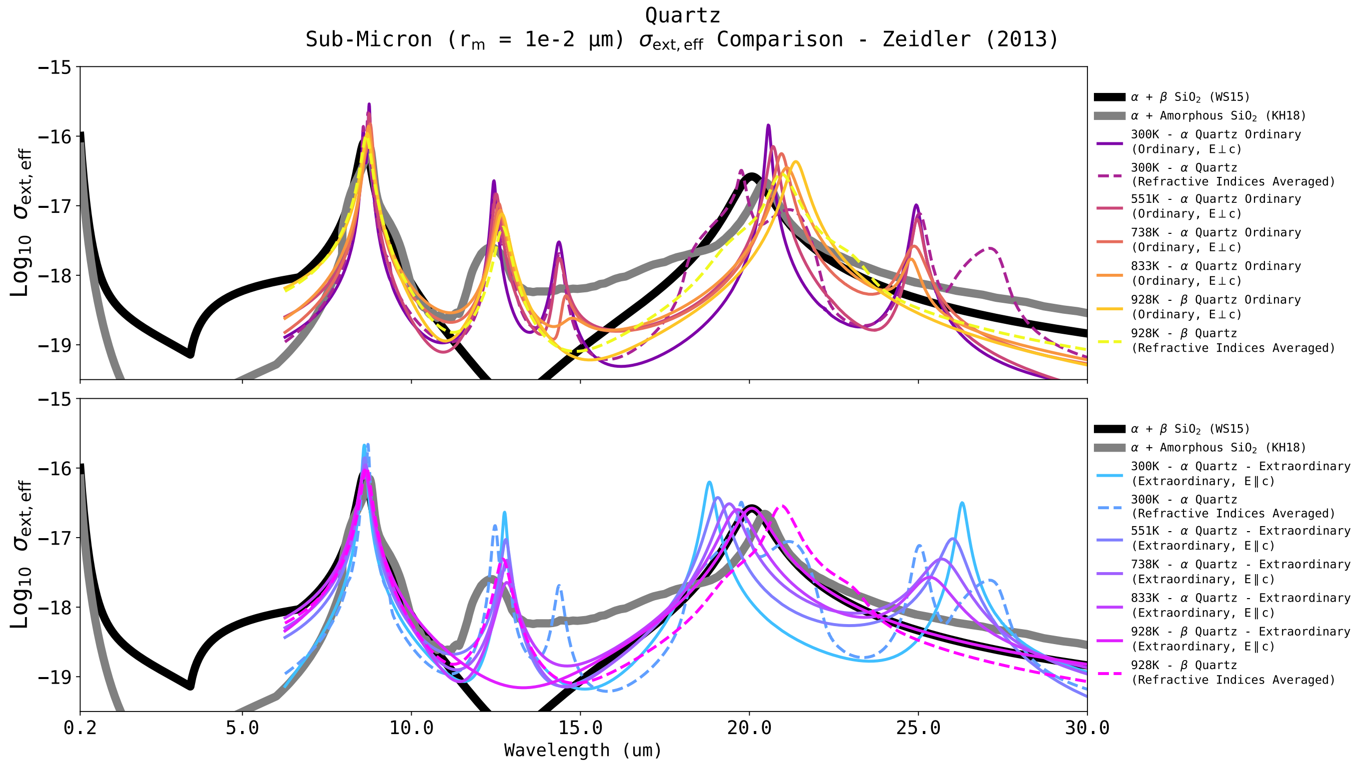

Figure 10. Same as Figure 3, but for Quartz (S. Zeidler et al. 2013).

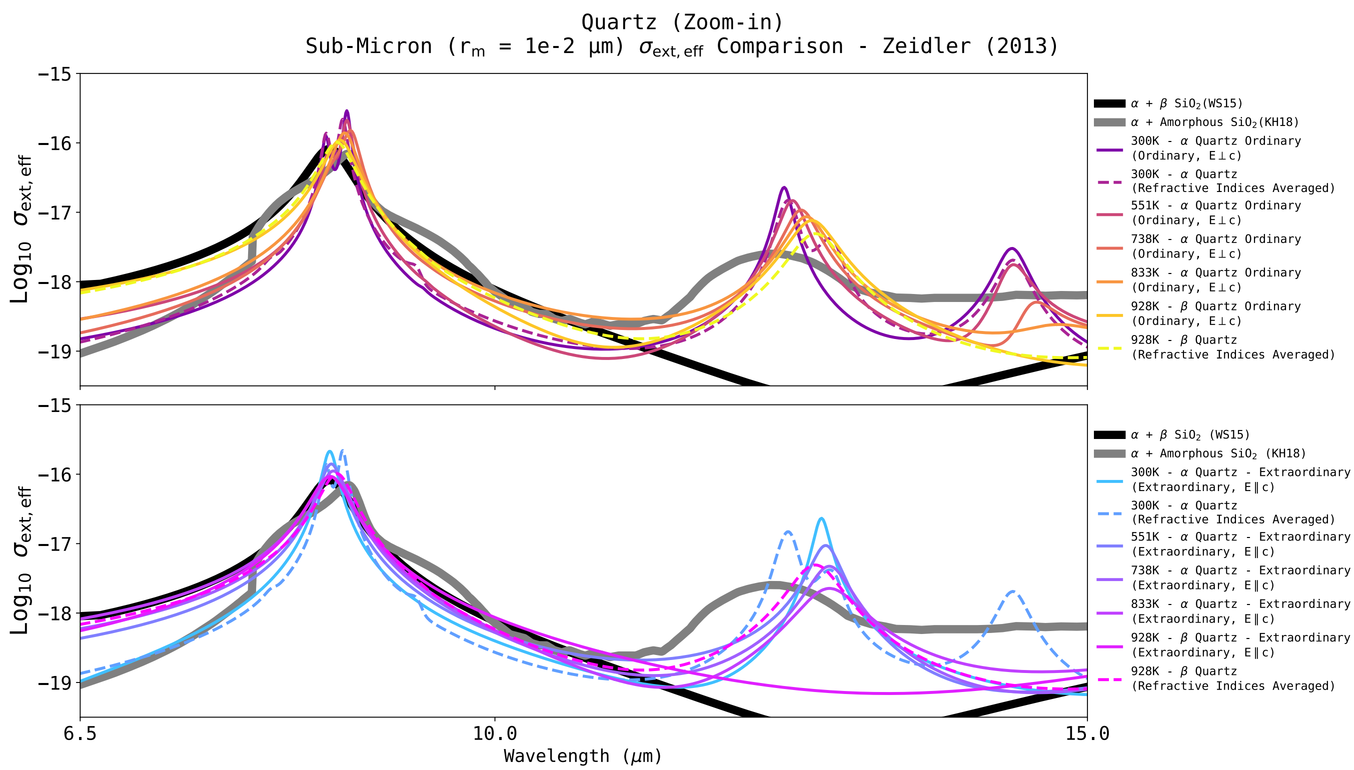

Figure 11. Same as Figure 3, but for Quartz (S. Zeidler et al. 2013), with a zoom-in on JWST MIRI-LRS wavelengths.

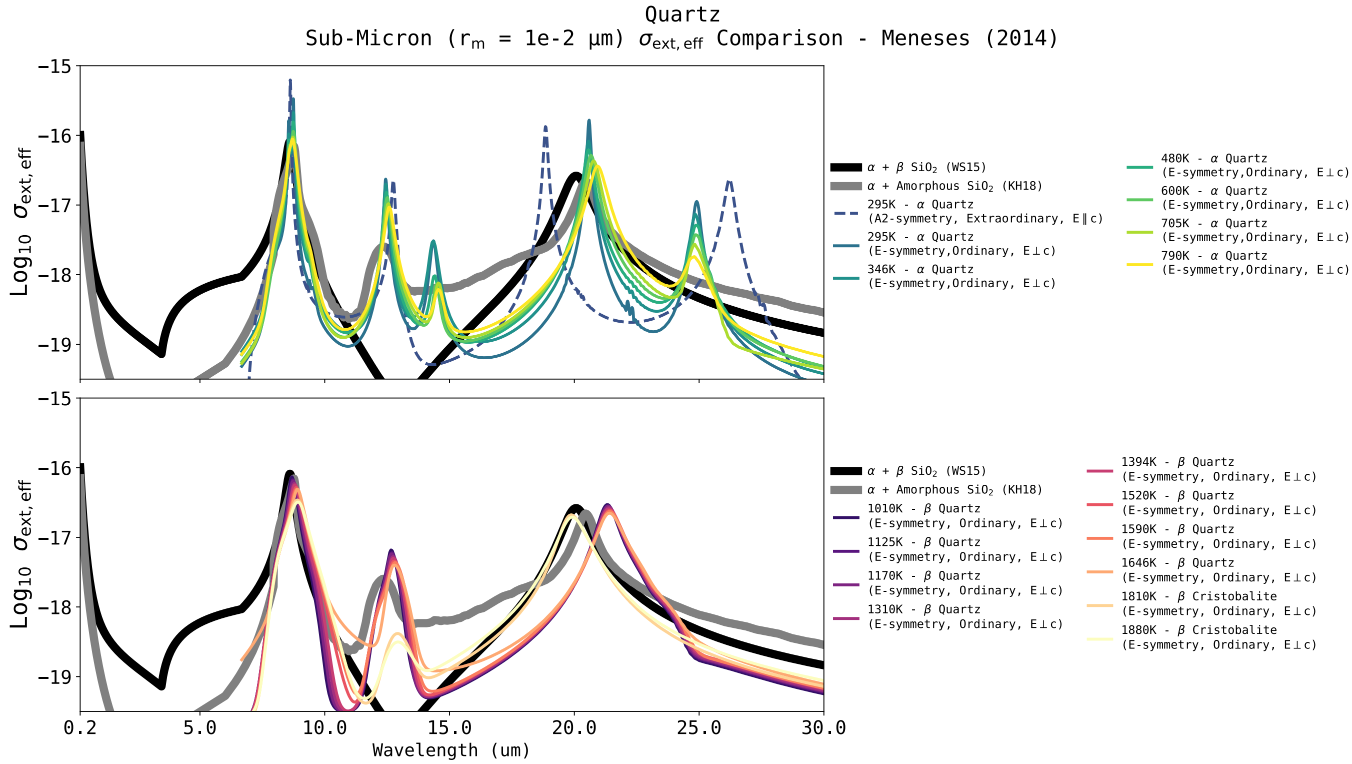

Figure 12. Same as Figure 3, but for Quartz and Cristobalite (D. D. S. Meneses et al. 2014).

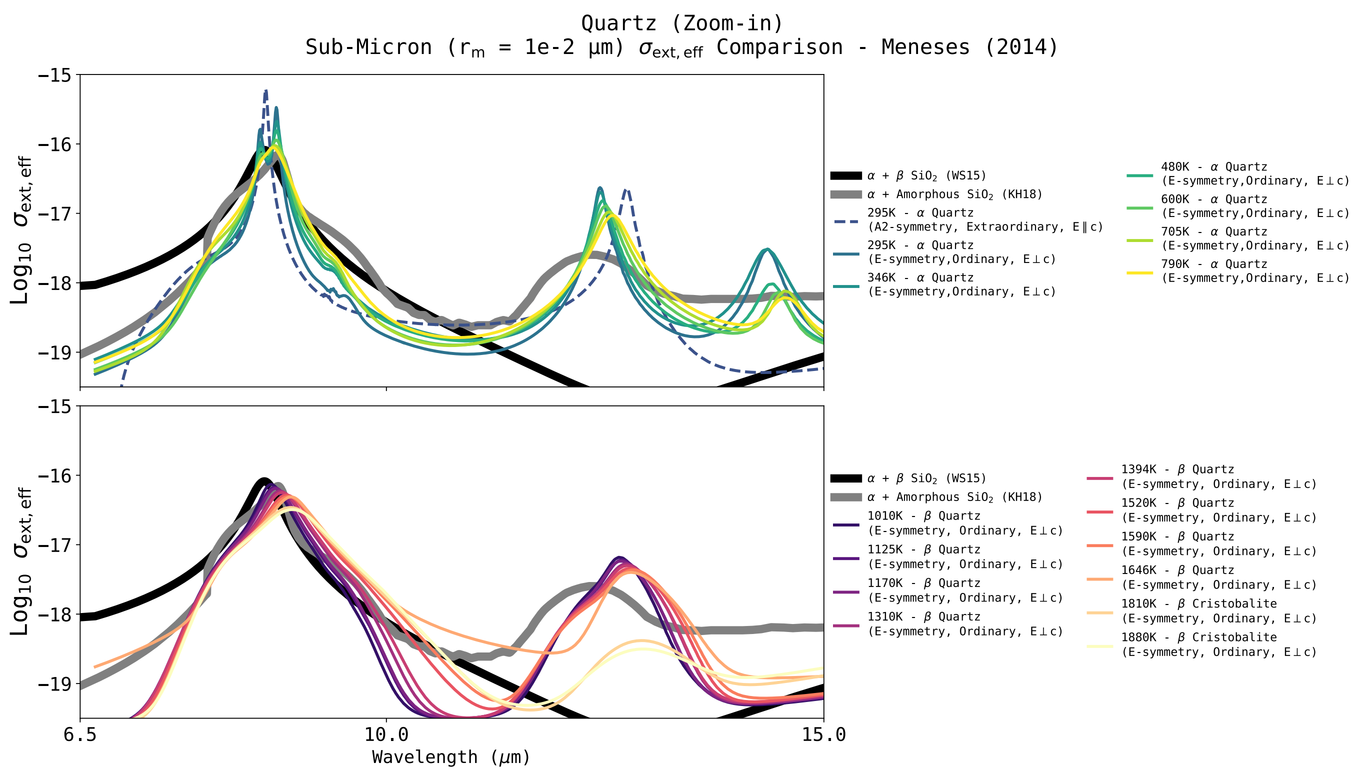

Figure 13. Same as Figure 3, but for Quartz and Cristobalite (D. D. S. Meneses et al. 2014), with a zoom-in on JWST MIRI-LRS wavelengths.

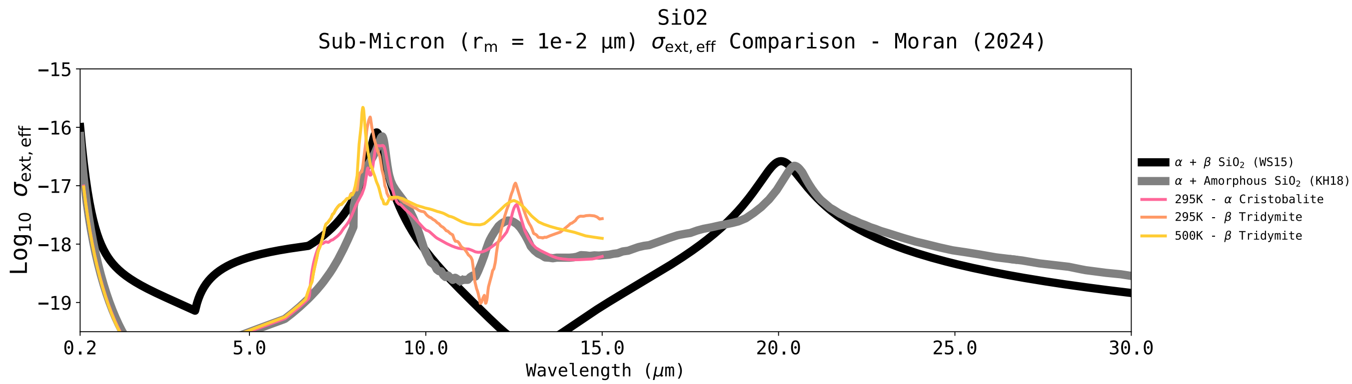

Figure 14. Same as Figure 3, but for Tridymite and Cristobalite (S. E. Moran et al. 2024).

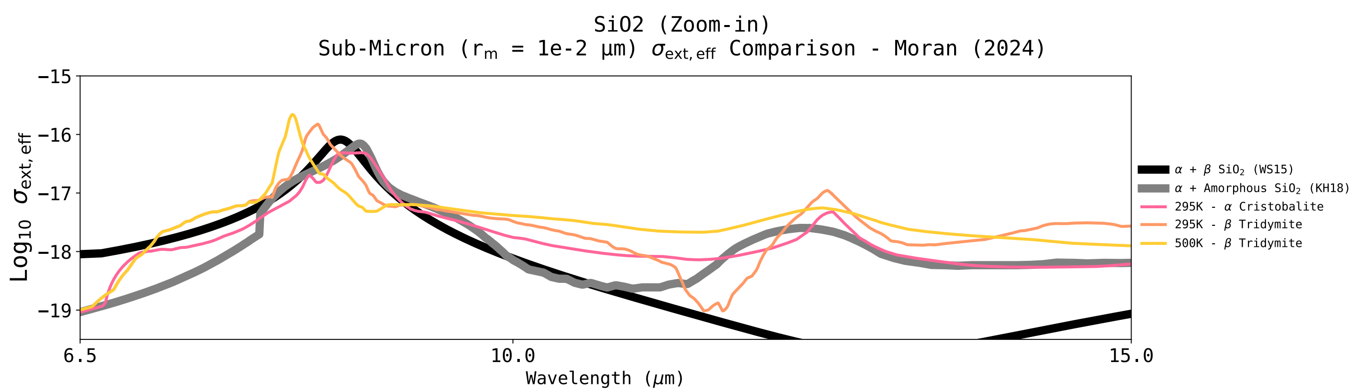

Figure 15. Same as Figure 3, but for Tridymite and Cristobalite (S. E. Moran et al. 2024), with a zoom-in on JWST MIRI-LRS wavelengths.

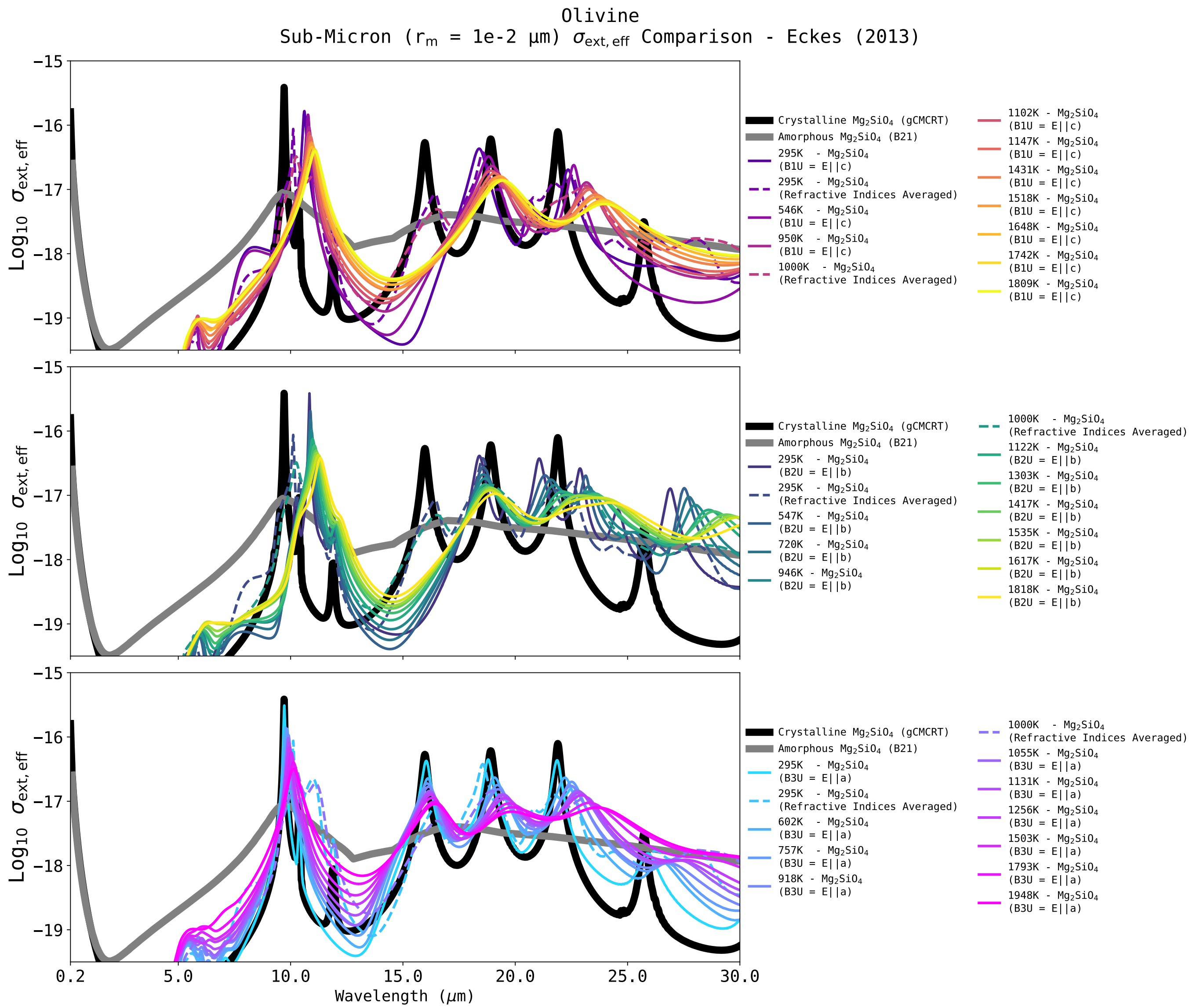

Figure 16. Same as Figure 3, but for Olivine (M. Eckes et al. 2013).

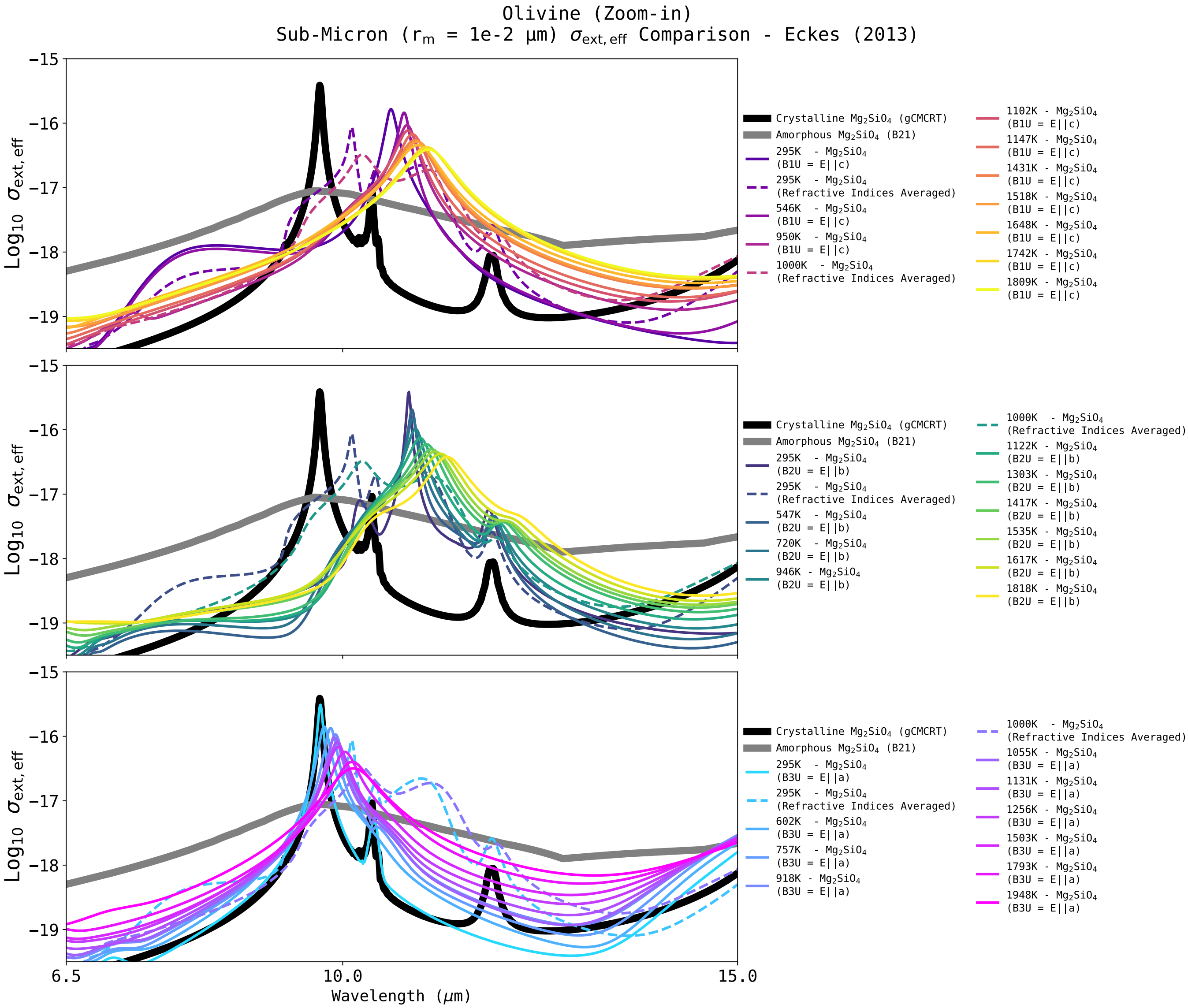

Figure 17. Same as Figure 3, but for Olivine (M. Eckes et al. 2013), with a zoom-in on JWST MIRI-LRS wavelengths.

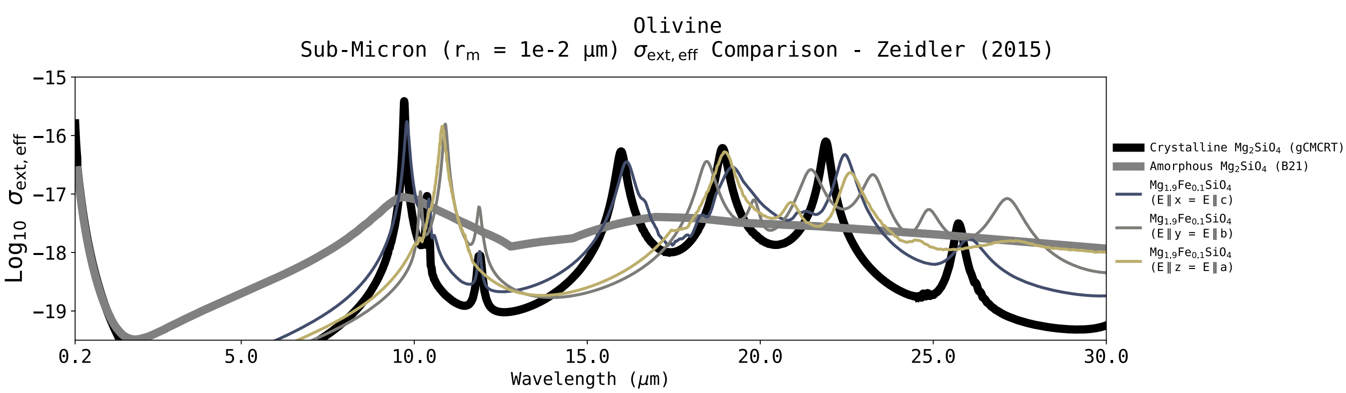

Figure 18. Same as Figure 3, but for Olivine (Strubachtal) (S. Zeidler et al. 2015).

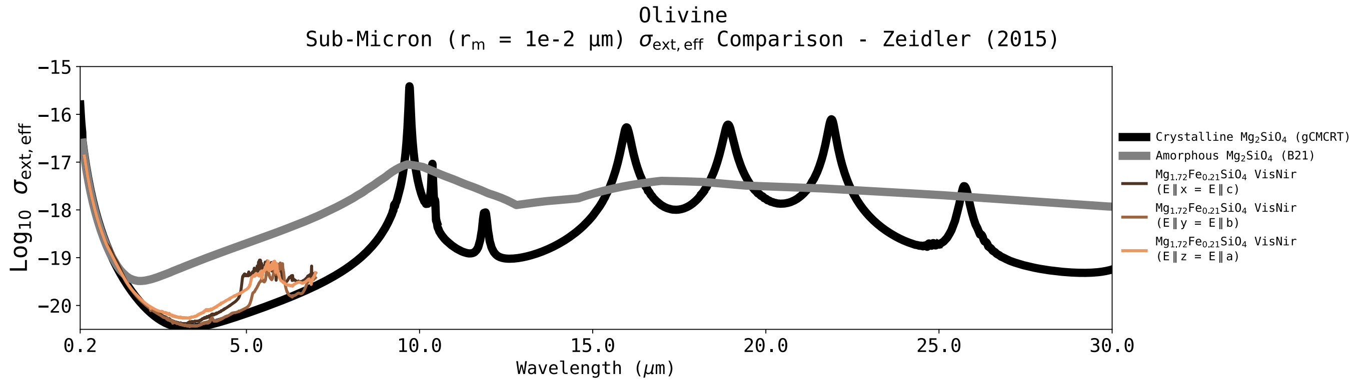

Figure 19. Same as Figure 3, but for Olivine (San Carlos, VisNir) (S. Zeidler et al. 2015).

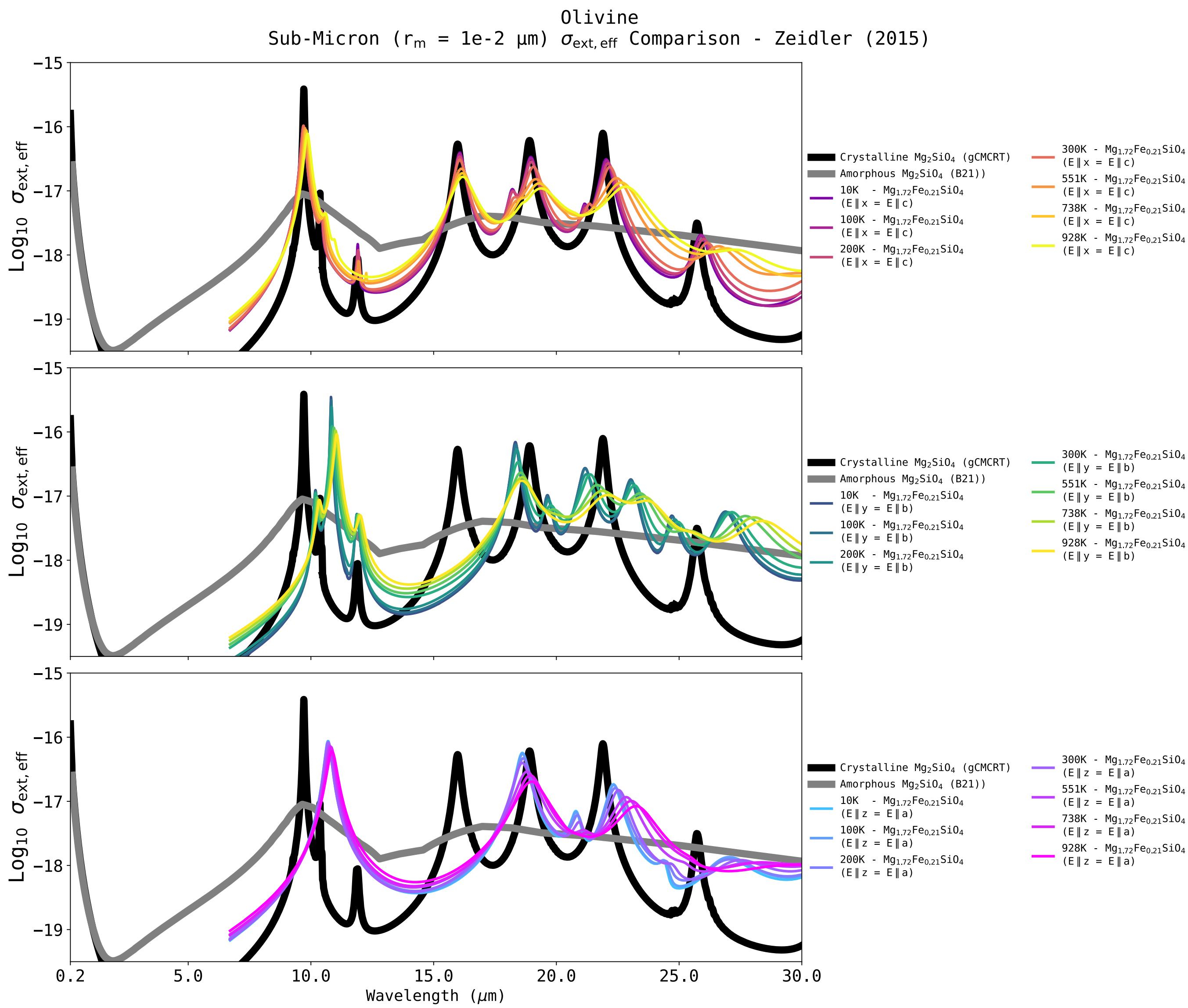

Figure 20. Same as Figure 3, but for Olivine (San Carlos) (S. Zeidler et al. 2015).

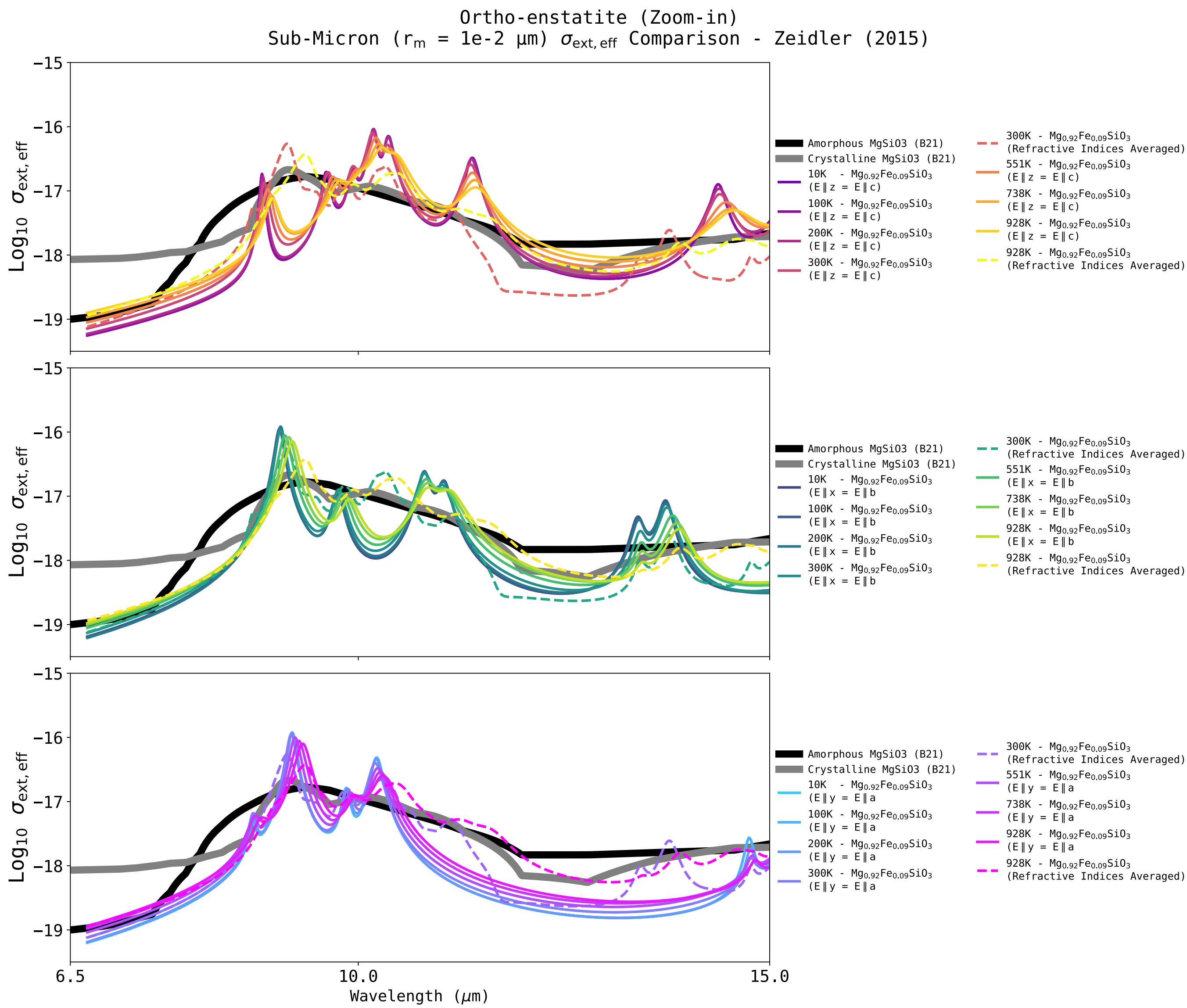

Figure 21. Same as Figure 3, but for Orthoenstatite (S. Zeidler et al. 2015), with a zoom-in on JWST MIRI-LRS wavelengths.

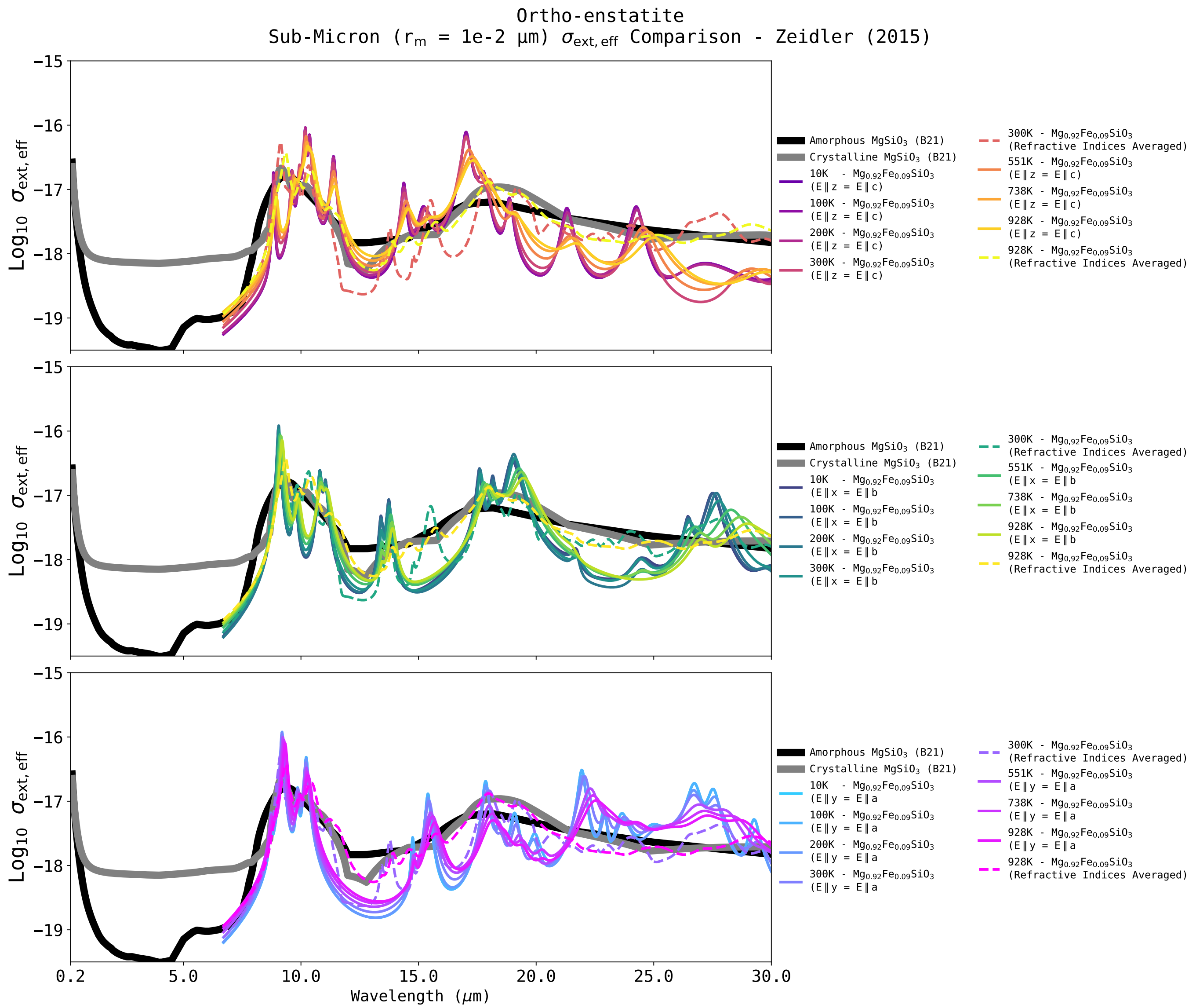

Figure 22. Same as Figure 3, but for Orthoenstatite (S. Zeidler et al. 2015).

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