

## HFC-*b*-329my

Molecular Formula: CHF<sub>2</sub>-CF(CF<sub>3</sub>)-CF<sub>3</sub>  
 CAS RN: 59571-40-3  
 Molecular Weight: 220.04

Global Atmospheric Lifetime (years): 23.7  
 Tropospheric Atmospheric Lifetime (years): 24.8  
 Stratospheric Atmospheric Lifetime (years): 523

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.303	0.325
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		4514
GWP <sub>100</sub>		2124
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		4179
GTP <sub>50</sub>		1838
GTP <sub>100</sub>		527

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 2.37 \times 10^{-15}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 1.51 \times 10^{-15}$$

$$\tau_{\text{Global}}^{\text{OH}} = 23.8 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 24.8 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 610 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 1.0 \times 10^{-11}$$

$$\tau_{\text{O}(\text{1D})} = 3700 \text{ years}$$

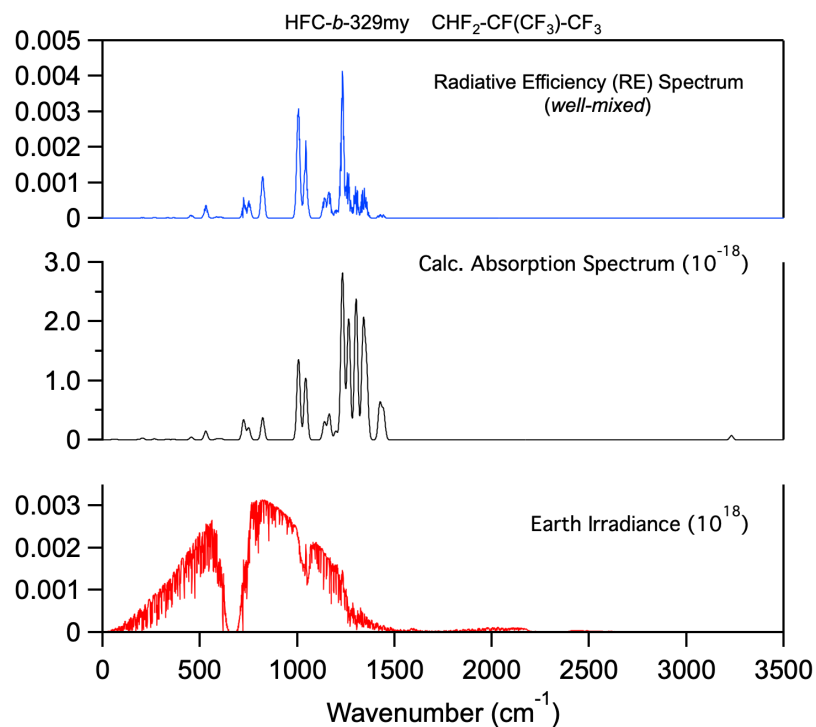
$$k_{\text{Rec}}(T) = NA$$



Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
44	0.6
66	0.8
71	0.4
173	0
180	0.7
204	4.1
263	0.2
265	1.8
281	0.1
325	0.5
332	0.5
338	0.5
364	1.2
455	5.8
529	14.5
530	4.2
568	0.1
586	2.1
608	2.6
724	43.6
750	26.1
822	48.1
1006	175.2
1043	134.2
1139	38.9
1164	55.3
1198	18.7
1231	260.8
1235	109.3
1264	262
1302	306.2
1339	242.9
1356	142.6
1424	76.7
1443	60.7
3231	9.2

Radiative Efficiency Spectrum



## HFC-*b*-329mz

Molecular Formula: CF<sub>3</sub>-CH(CF<sub>3</sub>)-CF<sub>3</sub>  
 CAS RN: 382-24-1  
 Molecular Weight: 220.04

Global Atmospheric Lifetime (years): 589  
 Tropospheric Atmospheric Lifetime (years): 740  
 Stratospheric Atmospheric Lifetime (years): 2879

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.281	0.307
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		6213
GWP <sub>100</sub>		7905
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		6663
GTP <sub>50</sub>		8079
GTP <sub>100</sub>		8991

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 1.06 \times 10^{-16}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 5.06 \times 10^{-17}$$

$$\tau_{\text{Global}}^{\text{OH}} = 700 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 740 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 12977 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 1.0 \times 10^{-11}$$

$$\tau_{\text{O}(\text{1D})} = 3700 \text{ years}$$

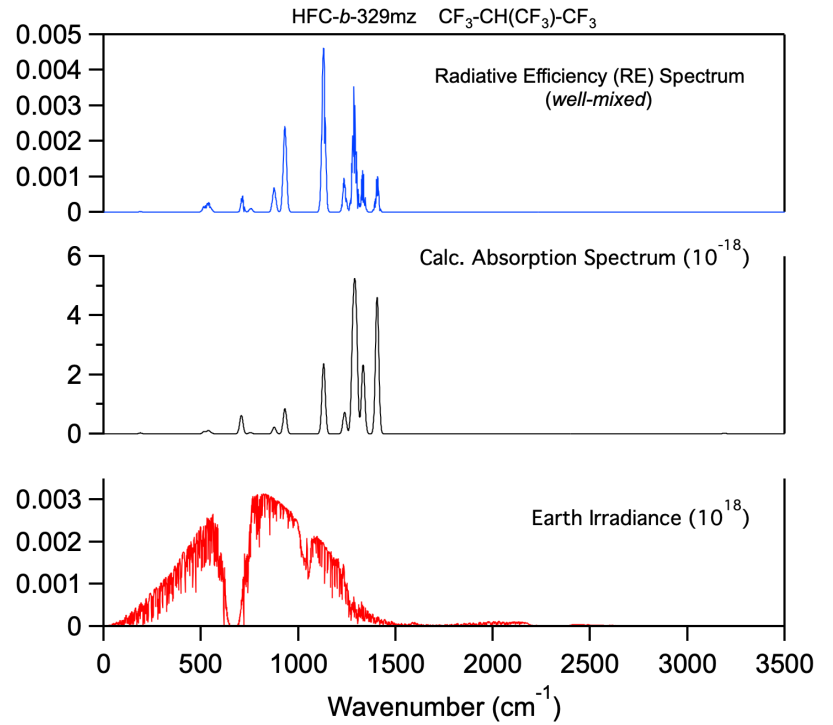
$$k_{\text{Rec}}(T) = NA$$



Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
58	0
62	0
62	0
187	0.7
187	0.7
188	2.3
282	0
303	0.1
303	0.1
332	0.2
332	0.2
334	0.4
516	9.6
536	0
538	6.7
538	6.7
553	1.3
553	1.3
707	39.9
707	39.9
754	5.7
876	29.2
931	55
931	55
1130	151.9
1130	151.9
1155	0
1238	46.8
1238	46.8
1282	455.7
1296	245.4
1296	245.3
1333	299.5
1405	296
1405	295.9
3190	3.2

Radiative Efficiency Spectrum



## HFC-*b*-338mz

Molecular Formula: CHF<sub>2</sub>-CH(CF<sub>3</sub>)-CF<sub>3</sub>  
 CAS RN: 382-20-7  
 Molecular Weight: 202.05

Global Atmospheric Lifetime (years): 15.19  
 Tropospheric Atmospheric Lifetime (years): 15.92  
 Stratospheric Atmospheric Lifetime (years): 334

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.305	0.324
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		4035
GWP <sub>100</sub>		1498
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		3421
GTP <sub>50</sub>		921
GTP <sub>100</sub>		246

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 3.60 \times 10^{-15}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 2.35 \times 10^{-15}$$

$$\tau_{\text{Global}}^{\text{OH}} = 15.3 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 15.92 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 408 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 2.0 \times 10^{-11}$$

$$\tau_{\text{O}(\text{1D})} = 1850 \text{ years}$$

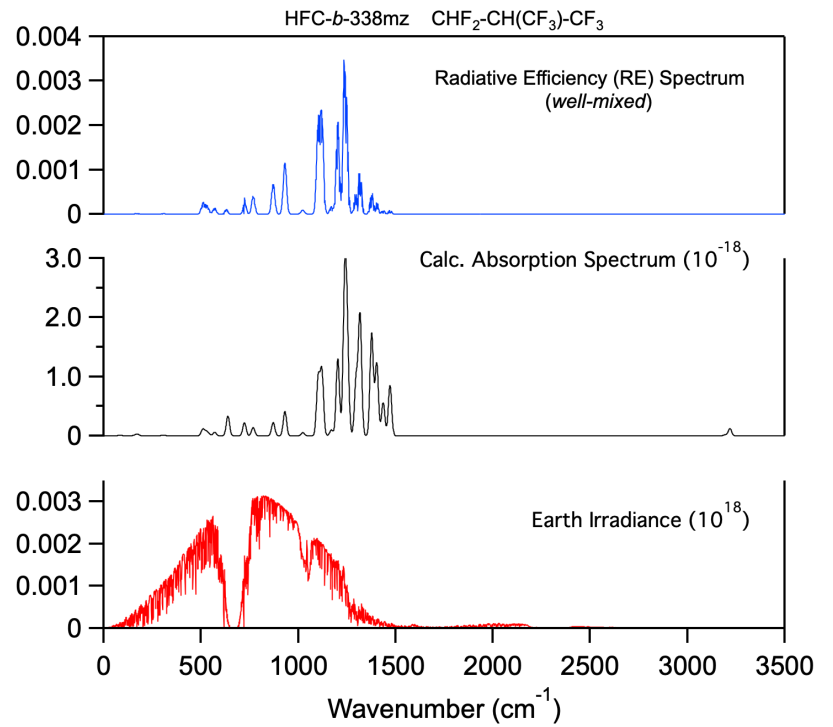
$$k_{\text{Rec}}(T) = NA$$



Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
56	0
72	0.2
84	1.7
158	0.9
169	2.2
176	1.8
300	0.5
305	0.5
312	0.3
329	0.5
348	0.3
509	13.8
526	8
538	3.9
546	0.1
570	7.7
638	42.9
723	28.3
768	17.8
871	29
931	52.8
1023	6.8
1102	122.7
1121	138.2
1170	12.8
1203	167.6
1239	332.8
1252	176.3
1297	119.5
1317	259.3
1377	221.7
1403	156.6
1436	71.8
1471	108.9
3194	2.2
3218	15.9

Radiative Efficiency Spectrum



## HFC-*b*-338py

Molecular Formula: CHF<sub>2</sub>-CF(CF<sub>3</sub>)-CHF<sub>2</sub>  
 CAS RN: 65781-21-7  
 Molecular Weight: 202.05

Global Atmospheric Lifetime (years): 11.35  
 Tropospheric Atmospheric Lifetime (years): 11.86  
 Stratospheric Atmospheric Lifetime (years): 267.8

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.304	0.320
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		3372
GWP <sub>100</sub>		1108
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		2634
GTP <sub>50</sub>		493
GTP <sub>100</sub>		162

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 4.74 \times 10^{-15}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 3.16 \times 10^{-15}$$

$$\tau_{\text{Global}}^{\text{OH}} = 11.4 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 11.86 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 313 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 2.0 \times 10^{-11}$$

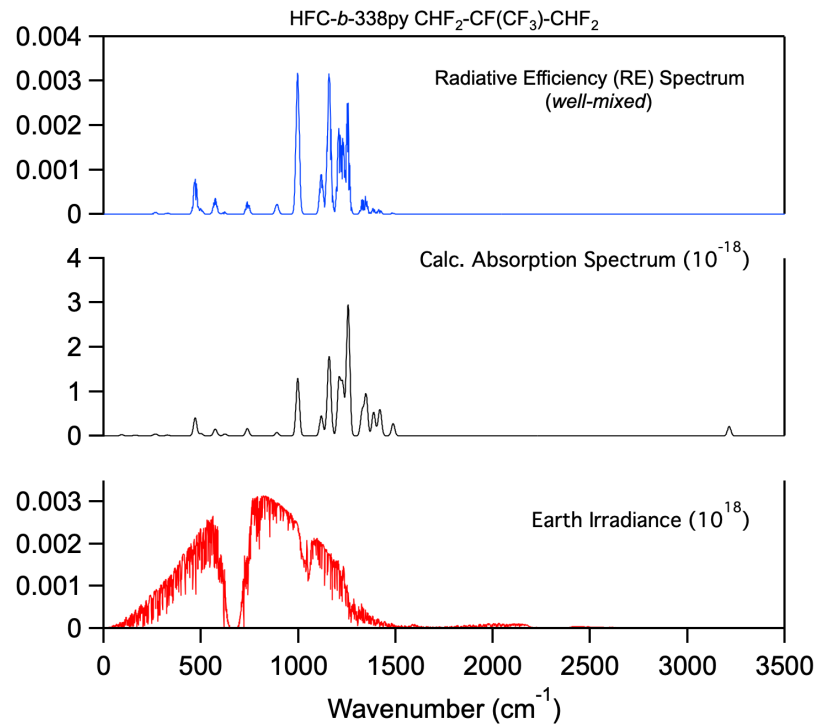
$$\tau_{\text{O}(\text{1D})} = 1850 \text{ years}$$

$$k_{\text{Rec}}(T) = NA$$

Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
44	0
73	0
92	3.4
155	1
174	0.7
190	0.3
256	1.5
268	4.8
325	1.5
329	1
347	0.1
388	0
470	51.9
500	6.7
571	11
574	7.7
584	2.1
623	5.4
738	21.1
890	9.8
997	165.7
1118	57.6
1139	3
1156	158.2
1163	89.2
1209	156.8
1228	142.8
1256	378.5
1328	70
1348	117.3
1387	67.6
1411	10.9
1420	69.4
1487	35.4
3213	9
3215	18.9

Radiative Efficiency Spectrum





## HFC-*b*-338mym

Molecular Formula: CH<sub>2</sub>F-CF(CF<sub>3</sub>)-CF<sub>3</sub>  
 CAS RN: 65781-19-3  
 Molecular Weight: 202.05

Global Atmospheric Lifetime (years): 14.65  
 Tropospheric Atmospheric Lifetime (years): 15.34  
 Stratospheric Atmospheric Lifetime (years): 325.4

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.256	0.272
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		3319
GWP <sub>100</sub>		1211
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		2789
GTP <sub>50</sub>		717
GTP <sub>100</sub>		194

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 3.72 \times 10^{-15}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 2.44 \times 10^{-15}$$

$$\tau_{\text{Global}}^{\text{OH}} = 11.5 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 11.86 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 395 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 2.0 \times 10^{-11}$$

$$\tau_{\text{O}(\text{1D})} = 1850 \text{ years}$$

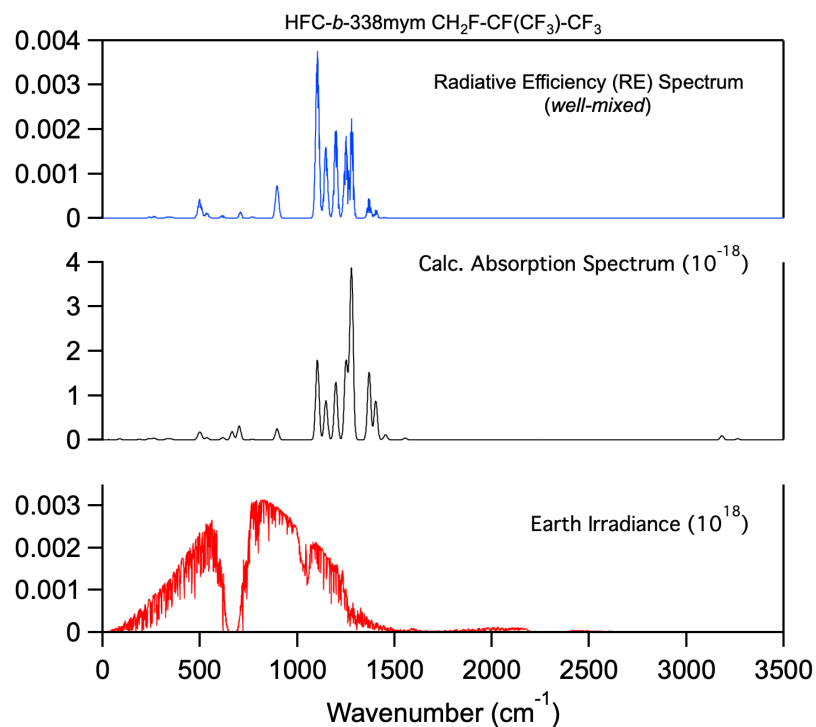
$$k_{\text{Rec}}(T) = NA$$



Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
30	0.8
83	0.2
87	2.7
154	0.1
188	1.4
238	3.9
264	5.3
292	0.2
327	1.8
331	1.1
350	2.6
375	0.3
495	16.6
505	10.5
535	6.2
559	0.1
617	6.2
665	23.8
701	40.2
769	1.2
896	31.6
1103	183.1
1103	48.3
1147	112.9
1198	121.6
1198	44
1226	0
1250	221.8
1268	69.6
1279	464.9
1369	194.4
1403	112.2
1453	14.4
1554	5
3182	12.1
3263	3.2

Radiative Efficiency Spectrum



## HFC-*b*-347mym

Molecular Formula: CH<sub>3</sub>-CF(CF<sub>3</sub>)-CF<sub>3</sub>  
 CAS RN: 662-00-0  
 Molecular Weight: 184.06

Global Atmospheric Lifetime (years): 36.79  
 Tropospheric Atmospheric Lifetime (years): 39.54  
 Stratospheric Atmospheric Lifetime (years): 528.5

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.272	0.294
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		5565
GWP <sub>100</sub>		3372
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		5445
GTP <sub>50</sub>		3414
GTP <sub>100</sub>		1384

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 1.54 \times 10^{-15}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 9.47 \times 10^{-16}$$

$$\tau_{\text{Global}}^{\text{OH}} = 37.9 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 39.54 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 927 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 3.0 \times 10^{-11}$$

$$\tau_{\text{O}(\text{1D})} = 1230 \text{ years}$$

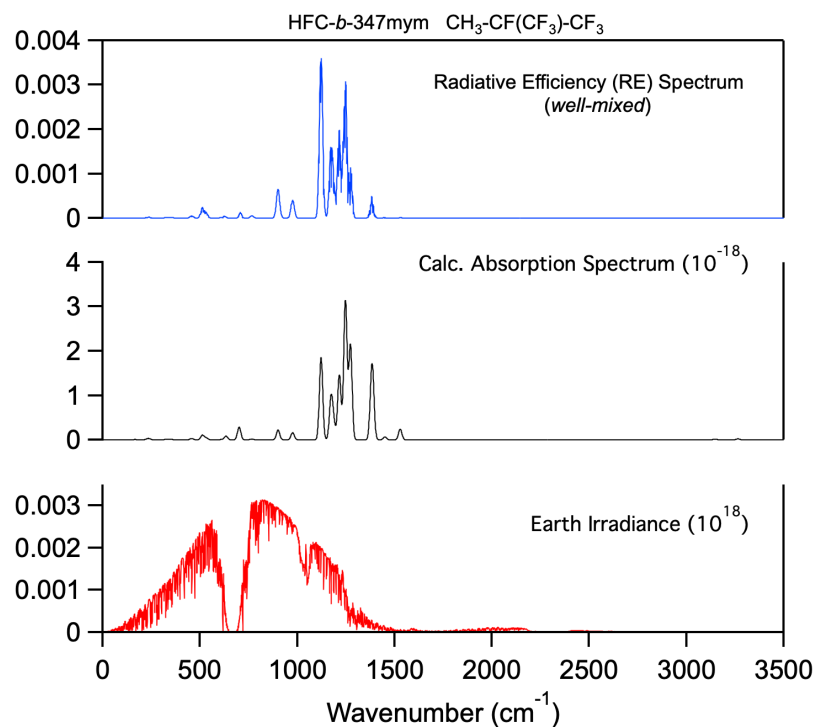
$$k_{\text{Rec}}(T) = NA$$



Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
18	0
93	0.7
166	0.9
198	0.5
230	2.8
241	2.1
288	0.2
325	0.9
331	1.2
350	0.7
354	0.7
457	3.6
512	13.4
532	5.7
562	0
608	0.8
633	10.7
701	37
766	2.4
901	28.2
976	20.7
1122	237.6
1173	117.6
1187	47.2
1216	186.6
1220	1.1
1247	400.1
1273	274
1381	125.5
1388	115.1
1450	8.3
1528	24.5
1532	7
3147	2.1
3262	1.4
3267	1.4

Radiative Efficiency Spectrum



## HFC-*b*-347mzm

Molecular Formula: CH<sub>2</sub>F-CH(CF<sub>3</sub>)-CF<sub>3</sub>  
 CAS RN: 2794-16-3  
 Molecular Weight: 184.06

Global Atmospheric Lifetime (years): 4.65  
 Tropospheric Atmospheric Lifetime (years): 4.83  
 Stratospheric Atmospheric Lifetime (years): 125.3

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.269	0.271
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		1531
GWP <sub>100</sub>		422
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		806
GTP <sub>50</sub>		86
GTP <sub>100</sub>		59

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 1.11 \times 10^{-14}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 7.74 \times 10^{-15}$$

$$\tau_{\text{Global}}^{\text{OH}} = 4.67 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 4.83 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 139.5 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 3.0 \times 10^{-11}$$

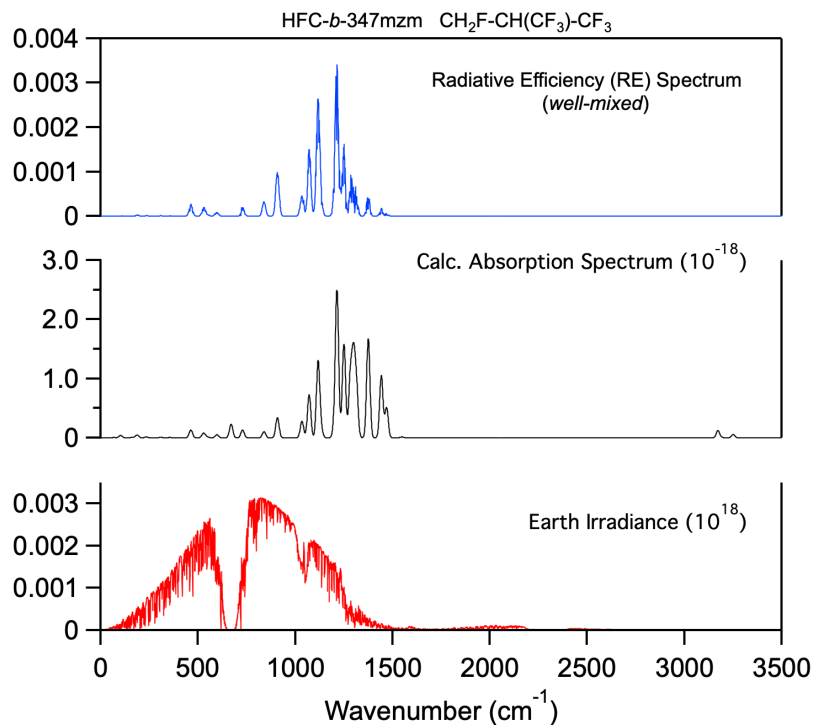
$$\tau_{\text{O}(\text{1D})} = 1230 \text{ years}$$

$$k_{\text{Rec}}(T) = NA$$

## Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
46	0.1
67	0.7
102	5.4
162	1
187	6
234	1.9
301	0.4
311	0.6
335	0.4
356	0.7
463	17.1
527	7.8
535	3.3
550	1.2
597	6.7
670	29.7
729	16.8
839	13.5
908	44.2
1034	36.3
1071	93.8
1117	165.8
1133	17.1
1199	15.8
1214	316.8
1250	203.3
1283	130.8
1299	161.4
1314	108.7
1375	215.6
1442	134.7
1469	65.3
1548	1.9
3172	15.8
3193	0.7
3250	7.3

## Radiative Efficiency Spectrum



## HFC-*b*-347myp

Molecular Formula: CH<sub>2</sub>F-CF(CF<sub>3</sub>)-CHF<sub>2</sub>  
 CAS RN: 65781-22-8  
 Molecular Weight: 184.06

Global Atmospheric Lifetime (years): 8.70  
 Tropospheric Atmospheric Lifetime (years): 9.08  
 Stratospheric Atmospheric Lifetime (years): 205.0

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.257	0.268
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		2579
GWP <sub>100</sub>		780
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		1830
GTP <sub>50</sub>		253
GTP <sub>100</sub>		110

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 6.10 \times 10^{-15}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 4.12 \times 10^{-15}$$

$$\tau_{\text{Global}}^{\text{OH}} = 8.76 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 9.08 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 246.2 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 3.0 \times 10^{-11}$$

$$\tau_{\text{O}(\text{1D})} = 1230 \text{ years}$$

$$k_{\text{Rec}}(T) = NA$$

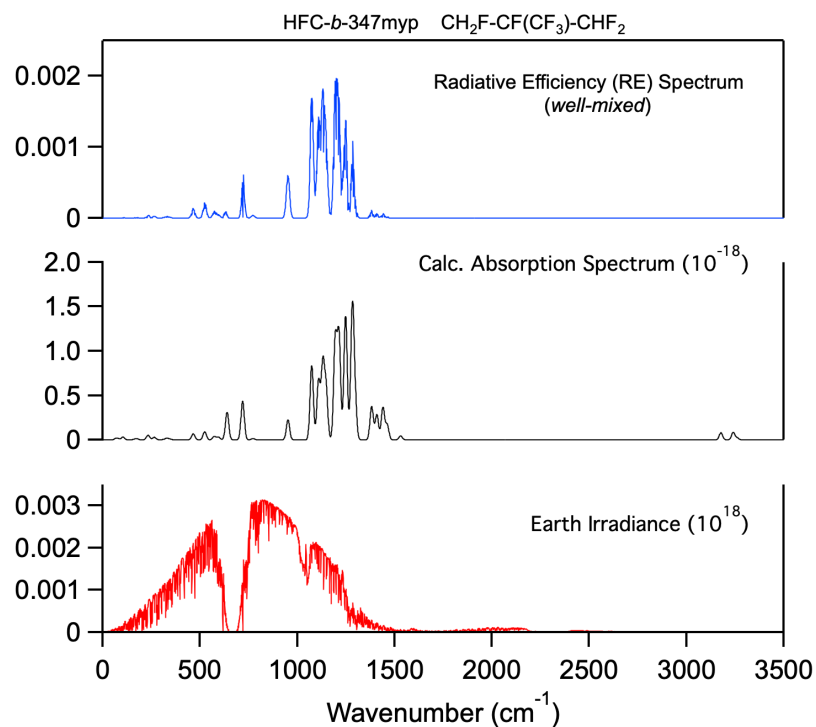


# HFC-*b*-347myp

## Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
70	2.3
81	0.9
104	3.9
163	0.6
175	1.5
233	6.8
265	3.7
313	0.5
328	1.8
342	1.2
362	0.2
465	8.5
524	11.7
573	5
595	4
639	39.7
719	56
772	1.8
952	28.7
1074	106.6
1109	84.5
1131	107.8
1148	70.6
1195	143.1
1214	149.1
1248	178.8
1283	187.5
1297	48.7
1382	48
1409	36.4
1440	46.6
1462	21.5
1531	5.8
3177	10.3
3240	10.6
3260	2.8

## Radiative Efficiency Spectrum





## HFC-*b*-347mzp

Molecular Formula: CHF<sub>2</sub>-CH(CF<sub>3</sub>)-CHF<sub>2</sub>  
 CAS RN: 65781-25-1  
 Molecular Weight: 184.06

Global Atmospheric Lifetime (years): 7.03  
 Tropospheric Atmospheric Lifetime (years): 7.33  
 Stratospheric Atmospheric Lifetime (years): 174.2

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.319	0.330
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		2685
GWP <sub>100</sub>		776
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		1739
GTP <sub>50</sub>		203
GTP <sub>100</sub>		109

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 7.46 \times 10^{-15}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 5.11 \times 10^{-15}$$

$$\tau_{\text{Global}}^{\text{OH}} = 7.07 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 7.33 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 203.0 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 3.0 \times 10^{-11}$$

$$\tau_{\text{O}(\text{1D})} = 1230 \text{ years}$$

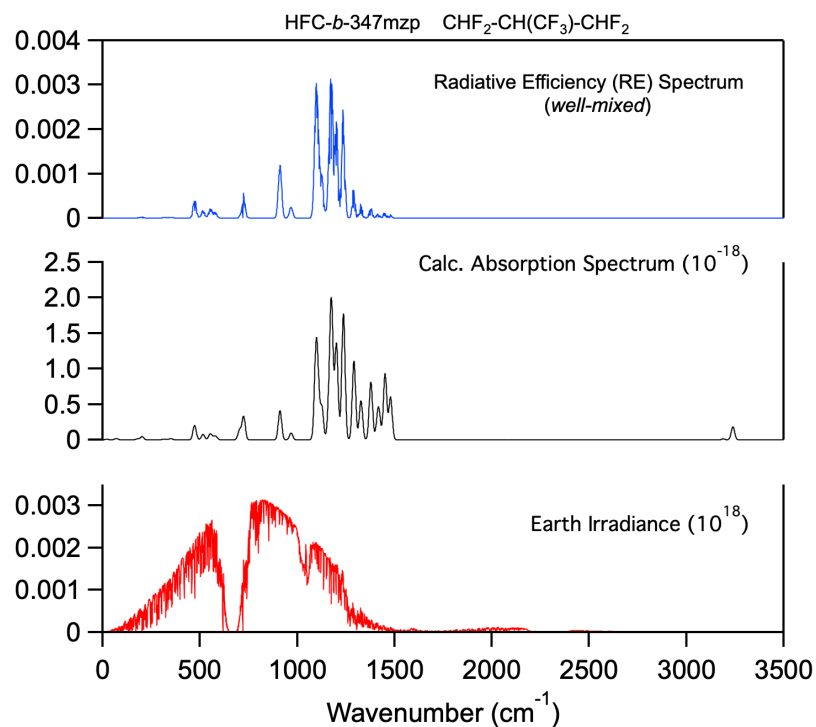
$$k_{\text{Rec}}(T) = NA$$



Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
21	1.2
67	1.1
72	1.3
164	0.1
180	1.8
202	5.9
312	0.5
315	0.7
333	0.9
352	1.9
472	25.9
515	9.8
552	10.1
569	3.6
581	5.6
703	17.4
724	42
911	52.7
968	12.1
1095	128.3
1105	89.3
1126	58.1
1162	43
1175	242.2
1201	172.4
1237	228
1291	142.2
1327	70.6
1378	104.4
1412	27.8
1420	38.5
1451	119
1479	77.1
3189	1.6
3237	14.2
3241	9.9

Radiative Efficiency Spectrum



## HFC-*b*-347pyp

Molecular Formula: CHF<sub>2</sub>-CF(CHF<sub>2</sub>)-CHF<sub>2</sub>  
 CAS RN: 65781-24-0  
 Molecular Weight: 184.06

Global Atmospheric Lifetime (years): 7.39  
 Tropospheric Atmospheric Lifetime (years): 7.71  
 Stratospheric Atmospheric Lifetime (years): 181.1

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.306	0.317
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		2688
GWP <sub>100</sub>		784
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		1781
GTP <sub>50</sub>		215
GTP <sub>100</sub>		110

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(\text{T}) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 7.11 \times 10^{-15}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 4.86 \times 10^{-15}$$

$$\tau_{\text{Global}}^{\text{OH}} = 7.44 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 7.71 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 212.4 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(\text{T}) = 3.0 \times 10^{-11}$$

$$\tau_{\text{O}(\text{1D})} = 1230 \text{ years}$$

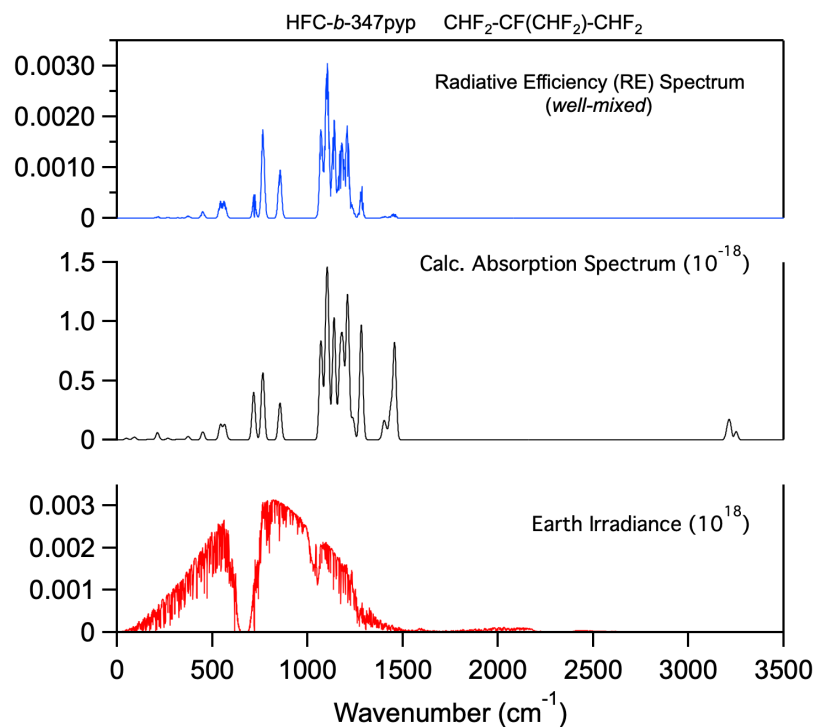
$$k_{\text{Rec}}(\text{T}) = NA$$



## Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
49	1.7
81	0.8
93	2.5
161	0.3
175	0.8
212	7.8
266	1.6
280	0.2
319	0.8
343	0.6
373	3.7
450	8.6
543	16.5
565	16
583	0.6
717	51.3
765	72.9
855	40.2
1070	107.1
1096	61.4
1105	147.8
1139	132.7
1170	78.5
1185	91.8
1210	156.3
1238	23.5
1282	124.6
1393	1.8
1401	17
1413	7.3
1436	31
1456	76.8
1459	28.9
3204	11.2
3217	17.6
3250	9

## Radiative Efficiency Spectrum



## HFC-*b*-356mzm

Molecular Formula: CH<sub>3</sub>-CH(CF<sub>3</sub>)-CF<sub>3</sub>  
 CAS RN: 382-09-2  
 Molecular Weight: 166.06

Global Atmospheric Lifetime (years): 12.00  
 Tropospheric Atmospheric Lifetime (years): 12.62  
 Stratospheric Atmospheric Lifetime (years): 243.8

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.259	0.273
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		3624
GWP <sub>100</sub>		1215
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		2880
GTP <sub>50</sub>		577
GTP <sub>100</sub>		180

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 4.47 \times 10^{-15}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 2.97 \times 10^{-15}$$

$$\tau_{\text{Global}}^{\text{OH}} = 12.2 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 12.62 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 331.1 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 4.0 \times 10^{-11}$$

$$\tau_{\text{O}(\text{1D})} = 925 \text{ years}$$

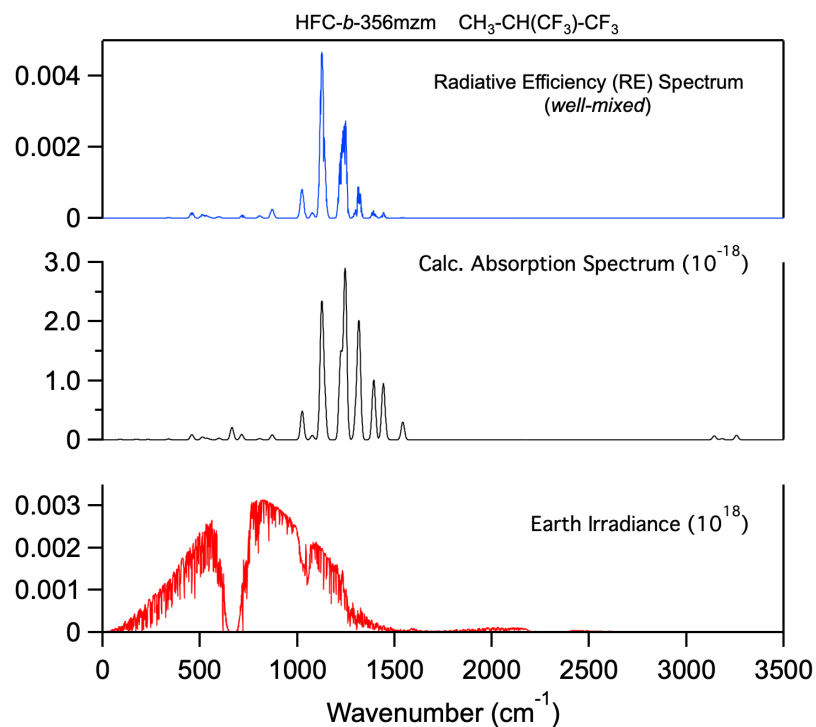
$$k_{\text{Rec}}(T) = NA$$



Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
90	1.2
174	1.6
201	0
233	0.9
268	0.3
305	0.3
337	0.4
339	1.5
458	11.1
512	6.1
534	3.3
550	0.9
598	3.4
664	27.2
714	11.6
806	2.9
871	10.8
1025	62.6
1077	9.4
1125	282.5
1140	82.1
1189	0
1223	181.8
1246	368.1
1302	59
1317	245.5
1393	130.4
1442	120.5
1456	4.8
1539	8.6
1543	30.4
3143	8.9
3183	1.4
3255	5.1
3259	5.1
3183	1.4

Radiative Efficiency Spectrum



## HFC-*b*-356myp

Molecular Formula: CH<sub>3</sub>-CF(CF<sub>3</sub>)-CHF<sub>2</sub>  
 CAS RN: 65781-20-6  
 Molecular Weight: 166.06

Global Atmospheric Lifetime (years): 10.66  
 Tropospheric Atmospheric Lifetime (years): 11.19  
 Stratospheric Atmospheric Lifetime (years): 224.8

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.281	0.296
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		3632
GWP <sub>100</sub>		1167
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		2779
GTP <sub>50</sub>		481
GTP <sub>100</sub>		169

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 4.93 \times 10^{-15}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 3.35 \times 10^{-15}$$

$$\tau_{\text{Global}}^{\text{OH}} = 10.8 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 11.19 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 297.1 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 4.0 \times 10^{-11}$$

$$\tau_{\text{O}(\text{1D})} = 925 \text{ years}$$

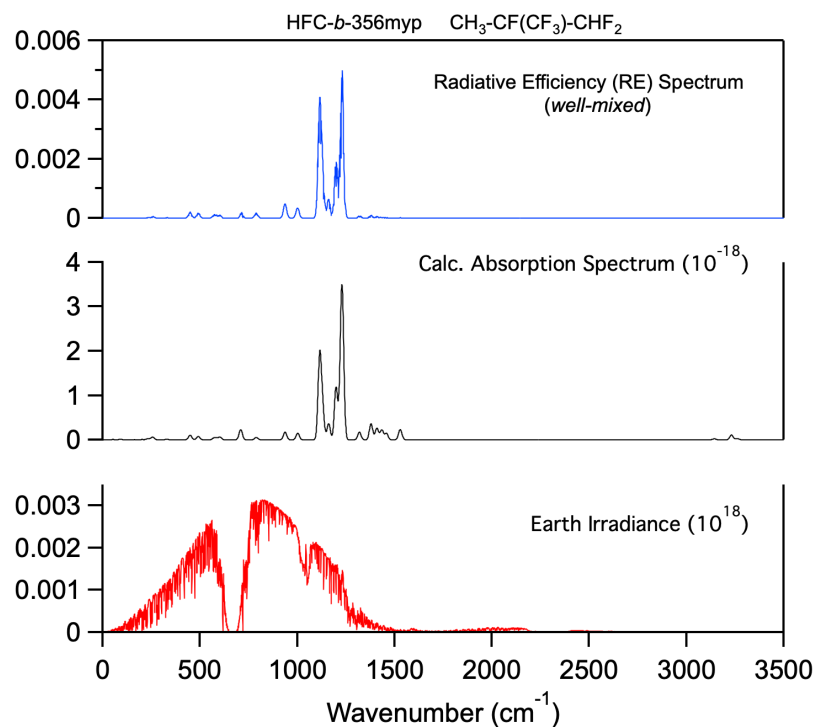
$$k_{\text{Rec}}(T) = NA$$



Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
52	0.9
91	1.5
164	0.8
202	0.9
232	3.4
256	7.8
284	0.4
327	1.3
345	0.4
366	0.1
449	13.3
491	9.9
572	5
584	3.1
602	8.1
709	29.5
789	7
937	22
1002	18.9
1115	239.4
1130	82.5
1161	46.7
1199	151.8
1226	222.5
1232	255.3
1319	22.2
1379	46.2
1409	33.5
1434	28.7
1458	18.6
1527	19.7
1532	11.1
3143	2.9
3231	13.8
3257	2.5
3265	1.7

Radiative Efficiency Spectrum





## HFC-*b*-356mzp

Molecular Formula: CH<sub>2</sub>F-CH(CF<sub>3</sub>)-CHF<sub>2</sub>  
 CAS RN: 32931-17-2  
 Molecular Weight: 166.06

Global Atmospheric Lifetime (years): 3.51  
 Tropospheric Atmospheric Lifetime (years): 3.65  
 Stratospheric Atmospheric Lifetime (years): 96.9

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.266	0.262
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		1252
GWP <sub>100</sub>		342
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		572
GTP <sub>50</sub>		64
GTP <sub>100</sub>		47

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 1.44 \times 10^{-14}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 1.03 \times 10^{-14}$$

$$\tau_{\text{Global}}^{\text{OH}} = 3.53 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 3.65 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 108.2 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 4.0 \times 10^{-11}$$

$$\tau_{\text{O}(\text{1D})} = 925 \text{ years}$$

$$k_{\text{Rec}}(T) = NA$$

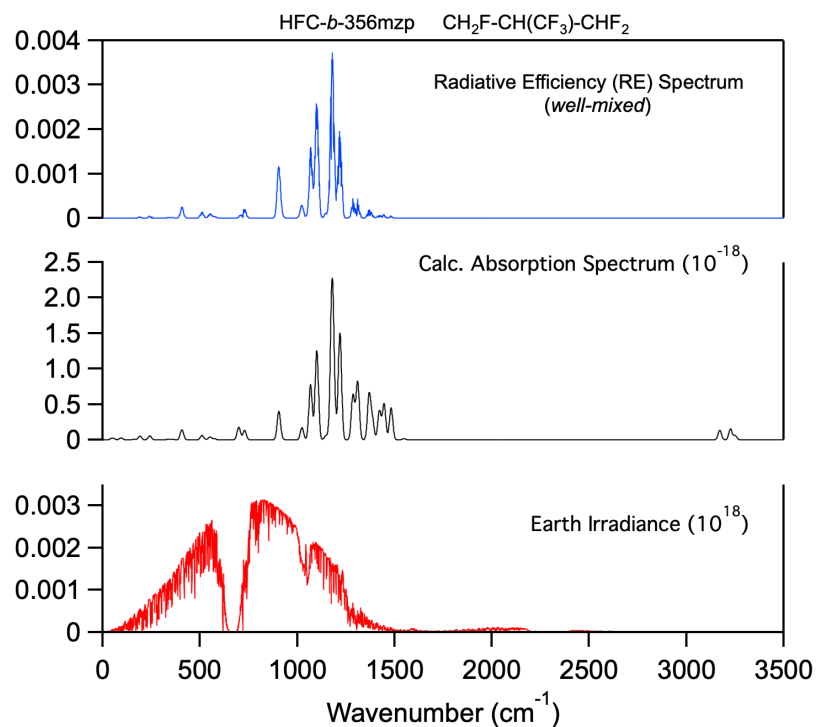


# HFC-*b*-356mzp

## Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
46	2.2
56	1.8
94	3.5
163	1.1
191	6.6
242	7.3
308	0.2
336	1
357	1.1
407	18.4
510	7.8
551	5.2
574	2.1
699	22.9
729	17
905	51.2
922	1.4
1024	22
1068	99.3
1100	161.2
1148	7.8
1178	257.2
1188	65.5
1219	193.2
1286	80.9
1310	105.2
1369	80.4
1386	34.4
1422	52.2
1446	64.8
1482	57.7
1548	2.2
3171	17
3180	0.7
3226	19.7
3250	7.4

## Radiative Efficiency Spectrum



## HFC-*b*-356myq

Molecular Formula: CH<sub>2</sub>F-CF(CF<sub>3</sub>)-CH<sub>2</sub>F  
 CAS RN: 161791-34-0  
 Molecular Weight: 166.06

Global Atmospheric Lifetime (years): 7.03  
 Tropospheric Atmospheric Lifetime (years): 7.34  
 Stratospheric Atmospheric Lifetime (years): 166.7

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.244	0.252
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		2275
GWP <sub>100</sub>		657
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		1474
GTP <sub>50</sub>		172
GTP <sub>100</sub>		92

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 7.45 \times 10^{-15}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 5.10 \times 10^{-15}$$

$$\tau_{\text{Global}}^{\text{OH}} = 7.08 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 7.34 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 203.3 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 4.0 \times 10^{-11}$$

$$\tau_{\text{O}(\text{1D})} = 925 \text{ years}$$

$$k_{\text{Rec}}(T) = NA$$

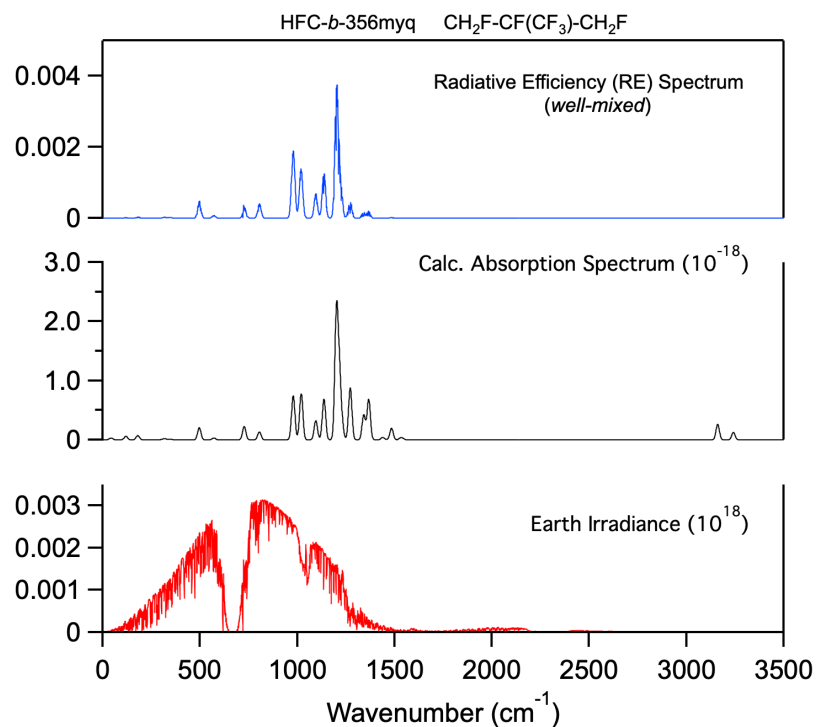


# HFC-*b*-356myq

## Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
43	4
69	0.1
119	7.8
179	6.3
182	3
244	0.5
296	0.5
319	2.8
348	1.4
361	0
423	0.5
496	26.3
571	4
574	0.1
727	28.6
805	17.3
969	0.9
979	95.8
1020	99.8
1095	41.7
1137	88.6
1201	270.5
1216	127
1230	29.3
1272	113.1
1341	52.2
1347	2
1367	87.3
1439	5.3
1484	24.9
1531	3.7
1542	2.2
3158	5.7
3161	28.4
3239	4.8
3242	11.6

## Radiative Efficiency Spectrum



## HFC-*b*-356pzp

Molecular Formula: CHF<sub>2</sub>-CH(CHF<sub>2</sub>)-CHF<sub>2</sub>  
 CAS RN: 138507-15-0  
 Molecular Weight: 166.06

Global Atmospheric Lifetime (years): 4.58  
 Tropospheric Atmospheric Lifetime (years): 4.76  
 Stratospheric Atmospheric Lifetime (years): 119.7

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.301	0.303
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		1867
GWP <sub>100</sub>		514
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		975
GTP <sub>50</sub>		104
GTP <sub>100</sub>		72

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 1.12 \times 10^{-14}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 7.87 \times 10^{-15}$$

$$\tau_{\text{Global}}^{\text{OH}} = 4.60 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 4.76 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 137.6 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 4.0 \times 10^{-11}$$

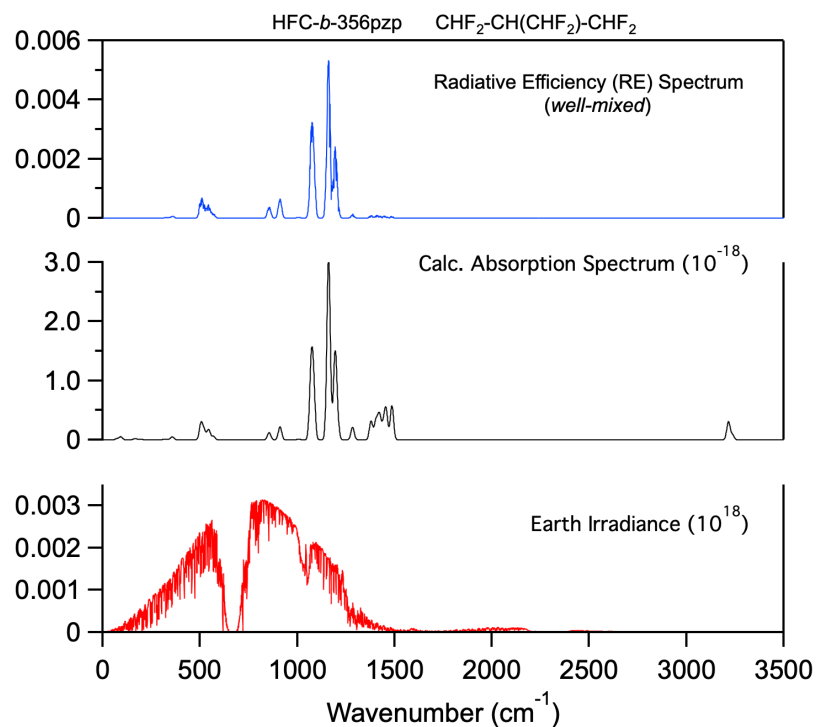
$$\tau_{\text{O}(\text{1D})} = 925 \text{ years}$$

$$k_{\text{Rec}}(T) = NA$$

Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
29	0.1
74	2.6
93	6.4
165	2.5
178	0.5
195	1.6
314	0.8
329	1.5
357	6.6
505	35.3
521	19.2
544	22.5
568	7.7
576	0.2
855	16.1
911	28.5
1007	1.6
1071	143.5
1083	113.5
1156	50.4
1161	341
1168	9
1194	179.7
1206	34.9
1284	27
1379	40.6
1404	39.9
1420	29.9
1424	24.8
1442	28.8
1456	62.6
1486	73.6
3170	0
3215	19.1
3216	19.9
3236	10.8

Radiative Efficiency Spectrum



## HFC-*b*-356pyp

Molecular Formula: CH<sub>2</sub>F-CF(CHF<sub>2</sub>)-CHF<sub>2</sub>  
 CAS RN: 35274-04-5  
 Molecular Weight: 166.06

Global Atmospheric Lifetime (years): 6.15  
 Tropospheric Atmospheric Lifetime (years): 6.41  
 Stratospheric Atmospheric Lifetime (years): 150.6

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.263	0.270
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		2174
GWP <sub>100</sub>		615
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		1320
GTP <sub>50</sub>		145
GTP <sub>100</sub>		86

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 8.47 \times 10^{-15}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 5.84 \times 10^{-15}$$

$$\tau_{\text{Global}}^{\text{OH}} = 6.19 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 6.41 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 179.9 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 4.0 \times 10^{-11}$$

$$\tau_{\text{O}(\text{1D})} = 925 \text{ years}$$

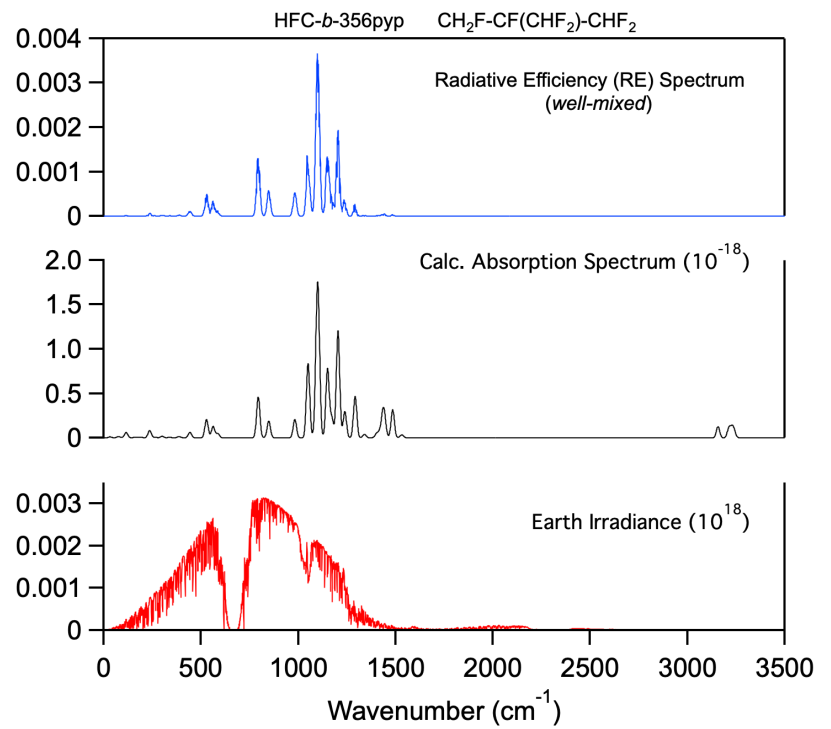
$$k_{\text{Rec}}(T) = NA$$



## Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
32	1.3
76	1.8
115	7.6
161	0.8
189	1.1
236	10.6
264	0.9
300	2.2
338	0.8
387	1.8
443	7.9
528	26.3
562	16.4
586	6.3
794	58.9
848	24
982	26.6
1050	107.7
1095	114.8
1103	137
1150	99.6
1172	28.6
1204	154.6
1239	38.1
1292	60.2
1340	5
1402	5.6
1417	6.7
1434	30.4
1444	21.3
1485	40.3
1532	4.4
3157	16.2
3213	13.9
3229	12.6
3240	8

## Radiative Efficiency Spectrum





## HFC-*b*-365mzp

Molecular Formula: CH<sub>3</sub>-CH(CF<sub>3</sub>)-CHF<sub>2</sub>  
 CAS RN: 381-95-3  
 Molecular Weight: 148.07

Global Atmospheric Lifetime (years): 3.51  
 Tropospheric Atmospheric Lifetime (years): 3.65  
 Stratospheric Atmospheric Lifetime (years): 94.5

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.251	0.248
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		1325
GWP <sub>100</sub>		362
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		605
GTP <sub>50</sub>		68
GTP <sub>100</sub>		50

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 1.44 \times 10^{-14}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 1.03 \times 10^{-14}$$

$$\tau_{\text{Global}}^{\text{OH}} = 3.53 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 3.65 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 108.3 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 5.0 \times 10^{-11}$$

$$\tau_{\text{O}(\text{1D})} = 740 \text{ years}$$

$$k_{\text{Rec}}(T) = NA$$

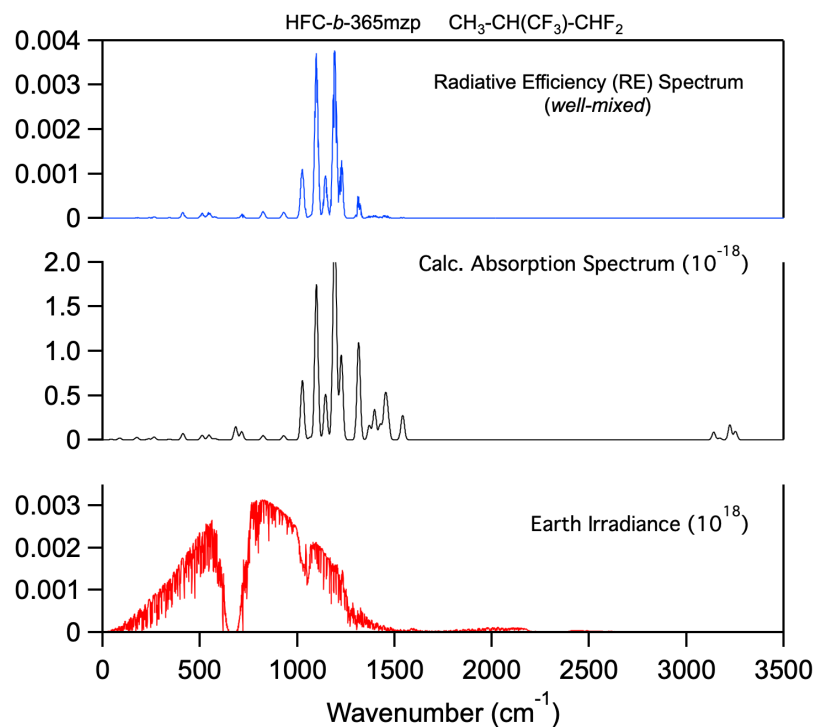


# HFC-*b*-365mzp

## Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
43	0.7
87	2.5
175	3.6
208	0.1
236	1.4
264	4
313	0
342	0.9
412	9.3
511	6.5
546	6.9
577	1.8
683	19
714	11.7
824	6.1
930	6
1026	85.9
1065	3.5
1098	224.9
1145	65.9
1189	212.2
1197	132.8
1226	122.7
1315	140.1
1370	20.7
1397	44
1426	22.2
1451	57.4
1465	34.3
1536	8.8
1543	28.6
3140	11.1
3171	2.5
3223	21.6
3249	7.3
3255	5.7

## Radiative Efficiency Spectrum



## HFC-*b*-365myq

Molecular Formula: CH<sub>3</sub>-CF(CF<sub>3</sub>)-CH<sub>2</sub>F  
 CAS RN: 119450-80-5  
 Molecular Weight: 148.07

Global Atmospheric Lifetime (years): 3.67  
 Tropospheric Atmospheric Lifetime (years): 3.81  
 Stratospheric Atmospheric Lifetime (years): 97.8

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.214	0.212
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		1184
GWP <sub>100</sub>		323
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		552
GTP <sub>50</sub>		62
GTP <sub>100</sub>		45

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 1.38 \times 10^{-14}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 9.81 \times 10^{-15}$$

$$\tau_{\text{Global}}^{\text{OH}} = 3.68 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 3.81 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 112.7 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 5.0 \times 10^{-11}$$

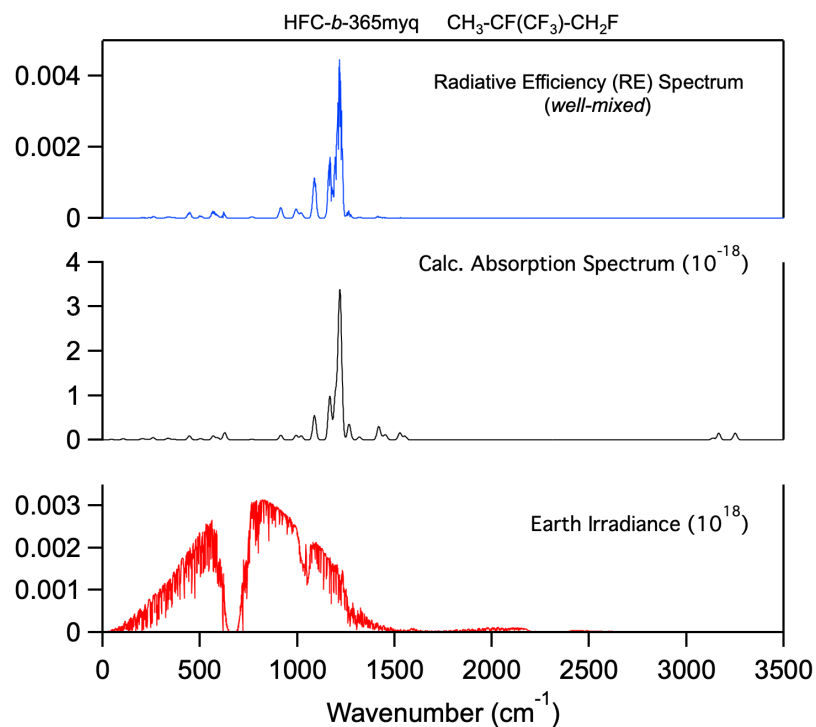
$$\tau_{\text{O}(\text{}^1\text{D})} = 740 \text{ years}$$

$$k_{\text{Rec}}(T) = NA$$

Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
44	1.4
105	3.2
201	2.3
208	1.9
234	1.6
259	6.5
333	3.8
347	1.6
370	1
445	11.5
503	3.8
568	11
590	5.8
627	20.3
766	1.6
915	13.1
994	13.2
1020	11
1088	69.7
1167	126.3
1196	124.2
1216	268.9
1223	199.6
1266	45.3
1319	8.2
1418	38.4
1439	6.3
1454	13.1
1524	6.6
1529	14.2
1553	10.6
3136	5.3
3166	19.2
3247	4.5
3250	13.6
3259	2.3

Radiative Efficiency Spectrum



## HFC-*b*-365pyp

Molecular Formula: CH<sub>3</sub>-CF(CHF<sub>2</sub>)-CHF<sub>2</sub>  
 CAS RN: 65781-23-9  
 Molecular Weight: 148.07

Global Atmospheric Lifetime (years): 6.25  
 Tropospheric Atmospheric Lifetime (years): 6.53  
 Stratospheric Atmospheric Lifetime (years): 146.6

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.253	0.260
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		2381
GWP <sub>100</sub>		675
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		1458
GTP <sub>50</sub>		161
GTP <sub>100</sub>		94

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 8.32 \times 10^{-15}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 5.73 \times 10^{-15}$$

$$\tau_{\text{Global}}^{\text{OH}} = 6.30 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 6.53 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 182.9 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 5.0 \times 10^{-11}$$

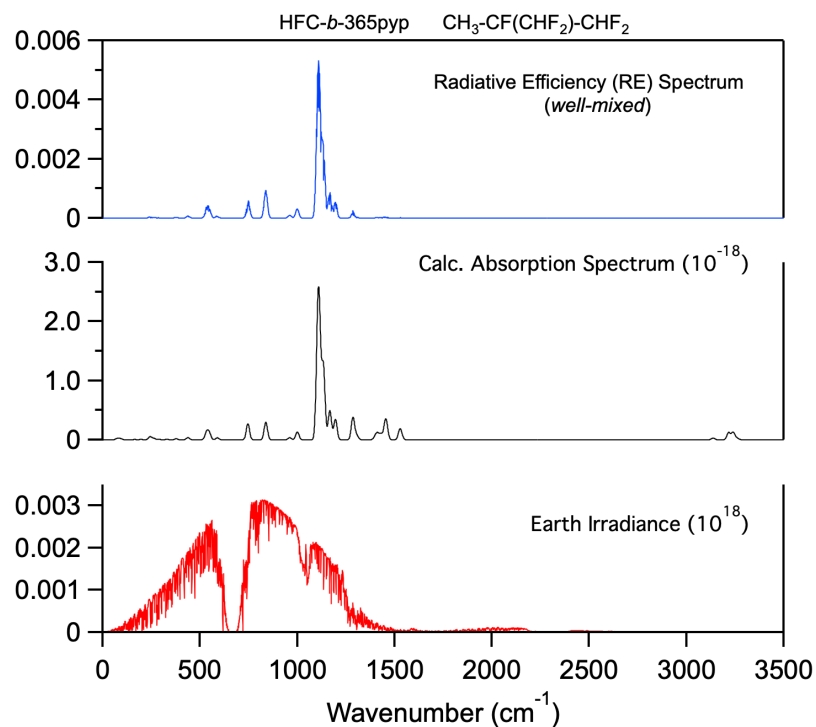
$$\tau_{\text{O}(\text{1D})} = 740 \text{ years}$$

$$k_{\text{Rec}}(T) = NA$$

## Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
74	2.8
91	2.6
164	0.8
197	0.9
243	6.7
262	3.1
287	1.3
330	1
377	2.1
438	4.8
533	15.3
547	15
589	4.3
746	34.5
838	38.3
961	4.6
1000	16.9
1105	203.2
1114	175.6
1134	156
1167	63.6
1196	44
1286	48.9
1306	8.8
1399	5.1
1411	13.2
1429	11.8
1451	28.1
1459	22.3
1526	17.1
1534	9.4
3137	4
3216	15.6
3237	12.9
3247	6.2
3264	2.4

## Radiative Efficiency Spectrum



## HFC-*b*-365mzq

Molecular Formula: CH<sub>2</sub>F-CH(CF<sub>3</sub>)-CH<sub>2</sub>F  
 CAS RN: 161791-30-6  
 Molecular Weight: 148.07

Global Atmospheric Lifetime (years): 0.70  
 Tropospheric Atmospheric Lifetime (years): 0.72  
 Stratospheric Atmospheric Lifetime (years): 25

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.203	0.150
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		160
GWP <sub>100</sub>		44
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		50
GTP <sub>50</sub>		7
GTP <sub>100</sub>		6

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 6.81 \times 10^{-14}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 5.21 \times 10^{-14}$$

$$\tau_{\text{Global}}^{\text{OH}} = 0.70 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 0.72 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 25 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 5.0 \times 10^{-11}$$

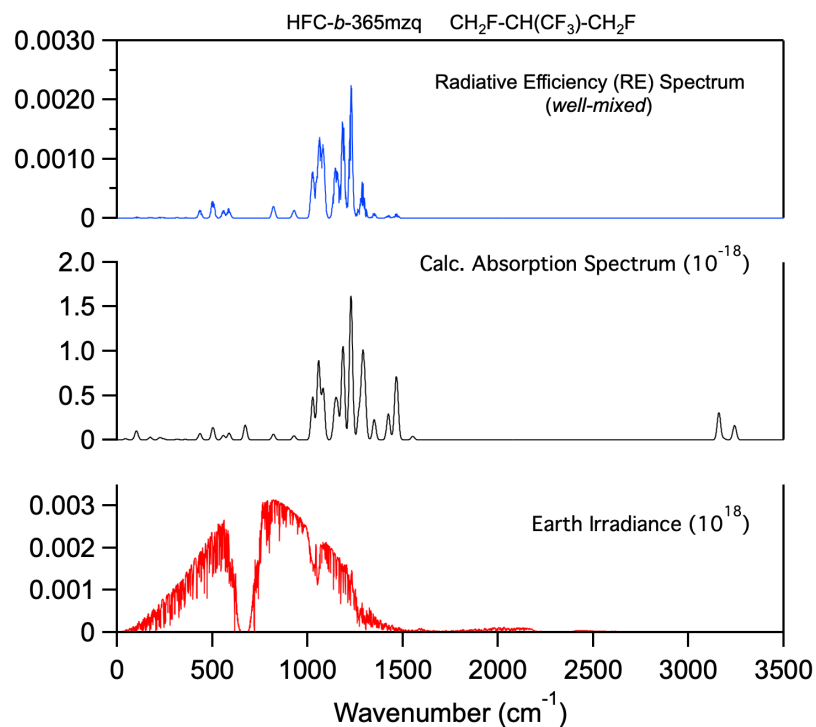
$$\tau_{\text{O}(\text{<sup>1</sup>D})} = 740 \text{ years}$$

$$k_{\text{Rec}}(T) = NA$$

Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
44	1.5
100	7.3
103	6
174	3.7
225	3.3
245	1.3
316	1
358	0.6
435	9.3
503	17.9
558	6.4
588	9.6
673	21.4
821	8
929	5.9
1027	61.7
1058	113.6
1082	72.4
1143	43
1157	43.4
1186	134.8
1228	208.4
1270	37.8
1289	104.5
1301	53.4
1350	29.3
1424	37.6
1462	48.4
1470	53.8
1551	3.1
1554	2.1
3157	16.5
3161	23.8
3184	2.2
3238	10.1
3245	12.3

Radiative Efficiency Spectrum





## HFC-*b*-365pzp

Molecular Formula: CH<sub>2</sub>F-CH(CHF<sub>2</sub>)-CHF<sub>2</sub>  
 CAS RN: 32864-57-6  
 Molecular Weight: 148.07

Global Atmospheric Lifetime (years): 2.60  
 Tropospheric Atmospheric Lifetime (years): 2.69  
 Stratospheric Atmospheric Lifetime (years): 74.1

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.251	0.240
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		953
GWP <sub>100</sub>		259
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		382
GTP <sub>50</sub>		47
GTP <sub>100</sub>		36

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 1.93 \times 10^{-14}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 1.39 \times 10^{-14}$$

$$\tau_{\text{Global}}^{\text{OH}} = 2.60 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 2.69 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 82.3 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 5.0 \times 10^{-11}$$

$$\tau_{\text{O}(\text{1D})} = 740 \text{ years}$$

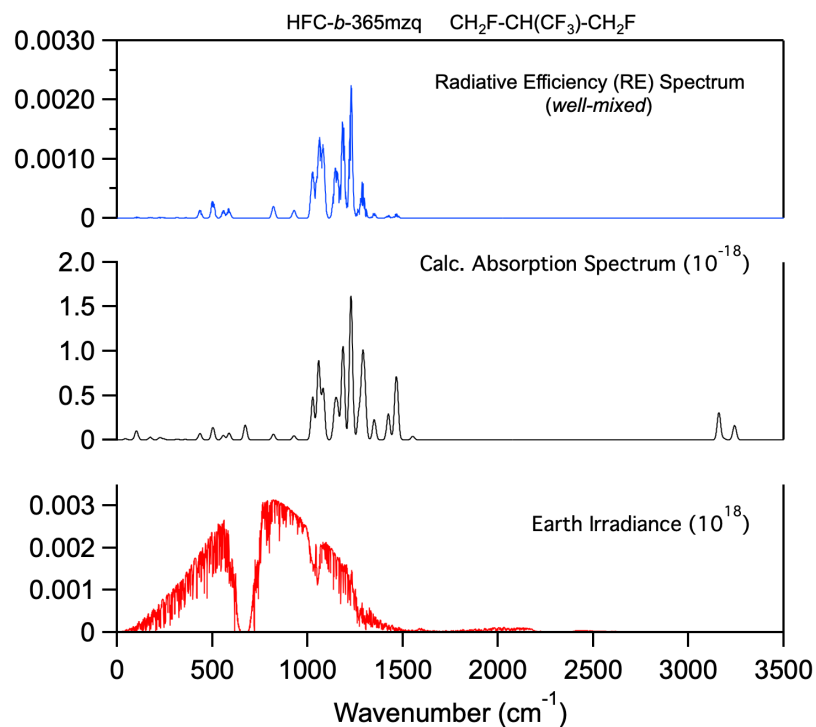
$$k_{\text{Rec}}(T) = NA$$



Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
49	2.7
73	2
91	6.3
160	1.3
200	10.2
246	0.5
315	1
363	2.2
450	9.5
496	25.2
558	9.4
584	9
733	39.4
937	14.3
948	15.9
1078	183.4
1081	57.3
1098	96
1139	173.8
1169	79.5
1181	43.3
1201	57.2
1276	2.3
1324	20.8
1344	15.6
1413	11
1421	20.4
1432	41.9
1466	28.3
1478	82.4
1550	3.1
3160	20.4
3175	0.2
3201	23.6
3237	16.2
3242	12

Radiative Efficiency Spectrum



## HFC-*b*-365pyq

Molecular Formula: CHF<sub>2</sub>-CF(CH<sub>2</sub>F)-CH<sub>2</sub>F  
 CAS RN: 65781-27-3  
 Molecular Weight: 148.07

Global Atmospheric Lifetime (years): 4.01  
 Tropospheric Atmospheric Lifetime (years): 4.17  
 Stratospheric Atmospheric Lifetime (years): 104.7

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.192	0.192
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		1165
GWP <sub>100</sub>		319
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		568
GTP <sub>50</sub>		62
GTP <sub>100</sub>		44

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 1.27 \times 10^{-14}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 8.98 \times 10^{-15}$$

$$\tau_{\text{Global}}^{\text{OH}} = 4.03 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 4.17 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 122.0 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 5.0 \times 10^{-11}$$

$$\tau_{\text{O}(\text{1D})} = 740 \text{ years}$$

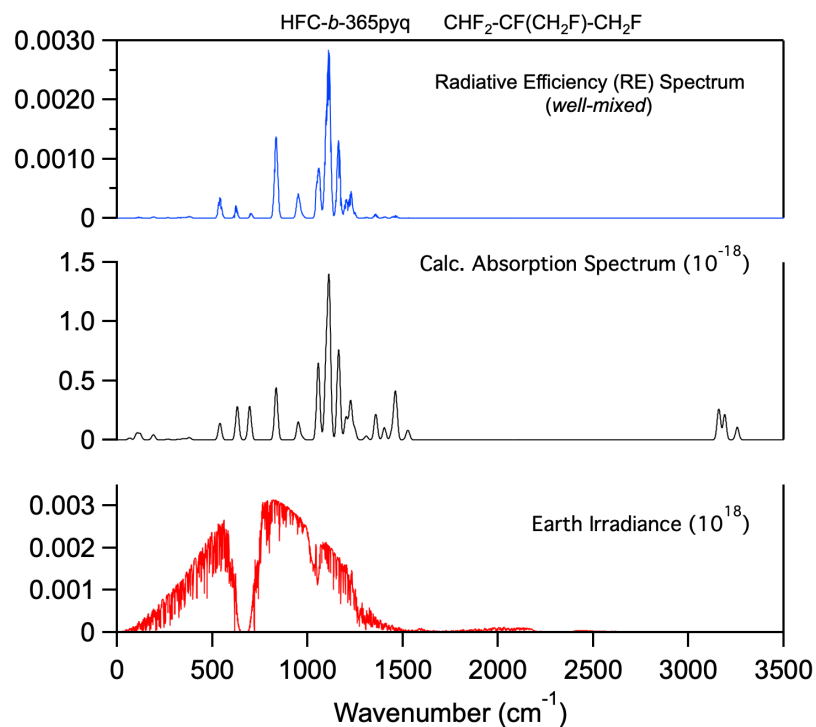
$$k_{\text{Rec}}(T) = NA$$



Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
66	2
103	6.7
121	6.2
184	1.2
192	4.6
267	0.9
323	0.8
348	1.4
373	1.3
383	1.5
540	17.9
631	36.2
696	36.6
835	56.7
951	19.3
971	3
1056	83.3
1097	74
1113	165
1163	97.8
1202	24.3
1226	42.2
1247	11.4
1308	4.2
1358	27.7
1403	13.3
1441	5.3
1453	14.6
1463	44.8
1522	5.3
1530	6.3
3156	17.2
3162	18.4
3190	27.2
3253	4.4
3257	9.6

Radiative Efficiency Spectrum



## HFC-*b*-374my

Molecular Formula: CF<sub>3</sub>-CF(CH<sub>3</sub>)-CH<sub>3</sub>  
 CAS RN: 154381-59-6  
 Molecular Weight: 130.08

Global Atmospheric Lifetime (years): 6.42  
 Tropospheric Atmospheric Lifetime (years): 6.72  
 Stratospheric Atmospheric Lifetime (years): 144

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.199	0.205
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		2186
GWP <sub>100</sub>		622
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		1356
GTP <sub>50</sub>		151
GTP <sub>100</sub>		87

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 8.09 \times 10^{-15}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 5.57 \times 10^{-15}$$

$$\tau_{\text{Global}}^{\text{OH}} = 6.49 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 6.72 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 187.8 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 6.0 \times 10^{-11}$$

$$\tau_{\text{O}(\text{1D})} = 617 \text{ years}$$

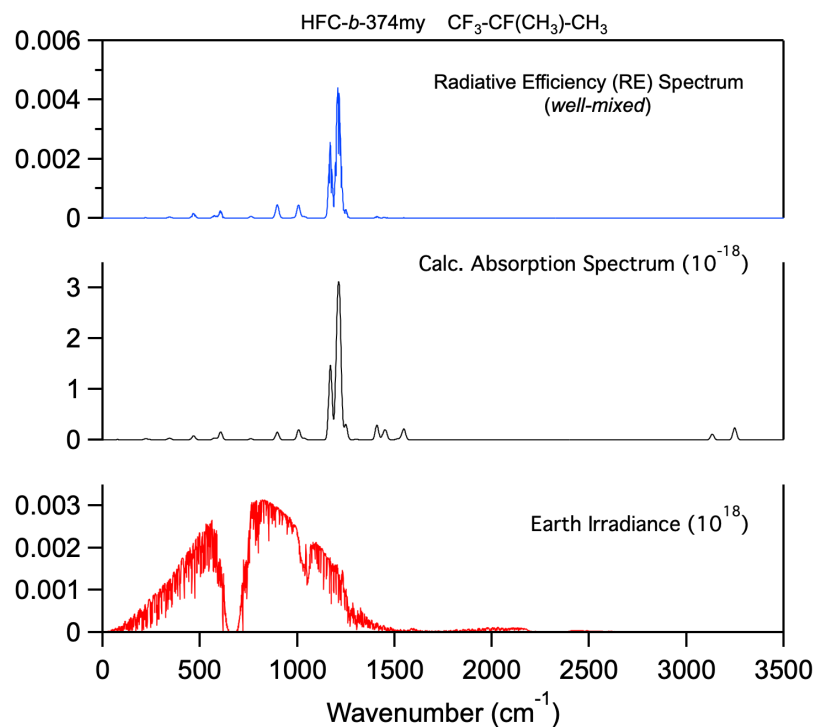
$$k_{\text{Rec}}(T) = NA$$



Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
76	0.8
196	0.1
221	2.9
237	0.6
253	0.4
338	2
347	2.2
351	0.2
435	0.5
467	10.2
573	4.3
585	1.1
606	19.7
761	2.8
897	19.5
973	0.5
1007	25.8
1035	4.2
1170	188.6
1205	245.9
1218	288
1249	38.3
1303	1.7
1409	37.3
1442	11.5
1454	20.2
1512	2
1518	0
1533	4.7
1548	26.7
3131	7.2
3134	7.2
3240	0
3245	17.5
3250	6.5
3252	8.5

Radiative Efficiency Spectrum



## HFC-*b*-374mz

Molecular Formula: CF<sub>3</sub>-CH(CH<sub>3</sub>)-CH<sub>2</sub>F  
 CAS RN: 161791-27-1  
 Molecular Weight: 130.08

Global Atmospheric Lifetime (years): 0.97  
 Tropospheric Atmospheric Lifetime (years): 1.00  
 Stratospheric Atmospheric Lifetime (years): 32

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.185	0.150
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		252
GWP <sub>100</sub>		69
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		81
GTP <sub>50</sub>		12
GTP <sub>100</sub>		9

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 4.96 \times 10^{-14}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 3.74 \times 10^{-14}$$

$$\tau_{\text{Global}}^{\text{OH}} = 0.97 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 1.00 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 33.7 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 6.0 \times 10^{-11}$$

$$\tau_{\text{O}(\text{1D})} = 617 \text{ years}$$

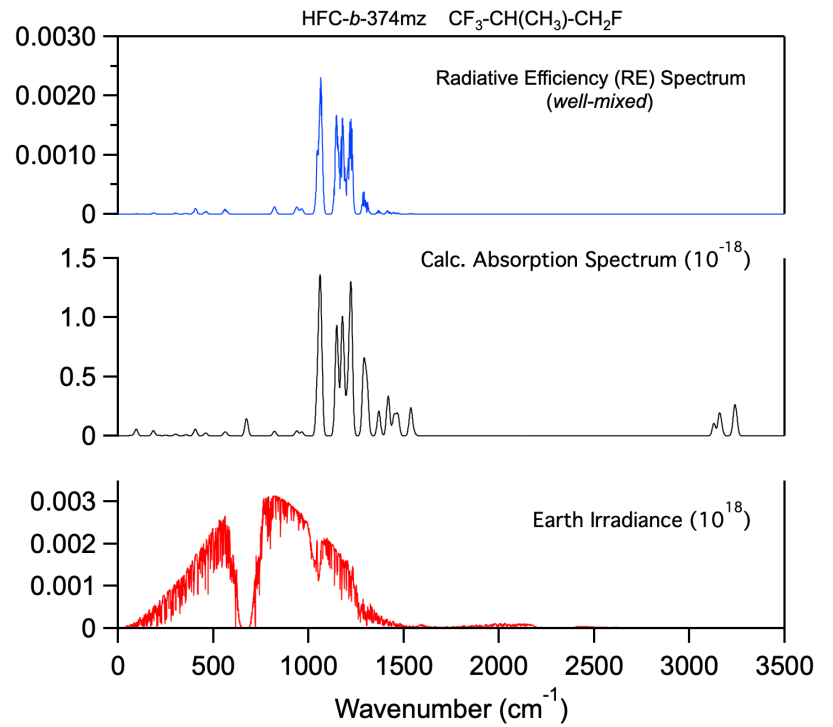
$$k_{\text{Rec}}(T) = NA$$



Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
68	0.6
95	7.2
185	5.7
216	0.4
249	0.8
302	2
356	1.2
405	7.2
460	3.1
560	3.5
571	1.3
674	18.6
821	5
938	5.5
964	4.3
1048	53.9
1062	159.1
1148	119.7
1178	128.8
1203	39.6
1222	164.1
1290	76
1307	51.9
1369	26.8
1418	43
1449	21.6
1468	22.6
1536	23.5
1539	7
1554	2.9
3128	13.4
3157	22.5
3169	6
3233	12.5
3240	19.9
3248	7.6

Radiative Efficiency Spectrum





## HFC-*b*-374py

Molecular Formula: CHF<sub>2</sub>-CF(CH<sub>3</sub>)-CH<sub>2</sub>F  
 CAS RN: 65781-26-2  
 Molecular Weight: 130.08

Global Atmospheric Lifetime (years): 2.92  
 Tropospheric Atmospheric Lifetime (years): 3.03  
 Stratospheric Atmospheric Lifetime (years): 79.7

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.174	0.169
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		855
GWP <sub>100</sub>		233
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		359
GTP <sub>50</sub>		43
GTP <sub>100</sub>		32

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 1.72 \times 10^{-14}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 1.24 \times 10^{-14}$$

$$\tau_{\text{Global}}^{\text{OH}} = 2.93 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 3.03 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 91.5 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 6.0 \times 10^{-11}$$

$$\tau_{\text{O}(\text{1D})} = 617 \text{ years}$$

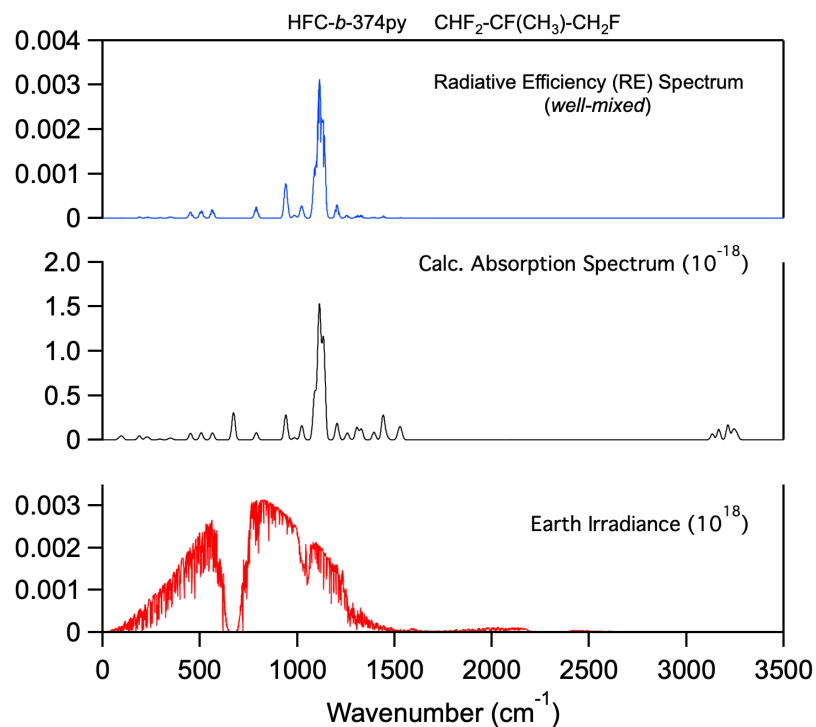
$$k_{\text{Rec}}(T) = NA$$



Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
85	2.5
99	5
188	5.7
223	3.1
234	2.3
294	1.2
342	1.5
353	1.7
451	9.2
506	10
564	10.1
672	39.4
789	10.3
941	36.1
985	3
1023	20.5
1089	66
1113	190.5
1135	141.2
1204	24.2
1257	10.1
1306	17.8
1329	15.5
1394	11.2
1440	26.7
1445	10.1
1460	4.5
1521	10
1530	3.9
1533	9.6
3133	8.6
3166	15
3213	21.6
3240	12.6
3253	7.6
3262	3.9

Radiative Efficiency Spectrum



## HFC-*b*-374pzp

Molecular Formula: CHF<sub>2</sub>-CH(CH<sub>3</sub>)-CHF<sub>2</sub>  
 CAS RN: 161791-28-2  
 Molecular Weight: 130.08

Global Atmospheric Lifetime (years): 1.93  
 Tropospheric Atmospheric Lifetime (years): 2.00  
 Stratospheric Atmospheric Lifetime (years): 57.2

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.206	0.190
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		638
GWP <sub>100</sub>		174
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		233
GTP <sub>50</sub>		31
GTP <sub>100</sub>		24

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 2.56 \times 10^{-14}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 1.87 \times 10^{-14}$$

$$\tau_{\text{Global}}^{\text{OH}} = 2.89 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 3.03 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 63.0 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 6.0 \times 10^{-11}$$

$$\tau_{\text{O}(\text{1D})} = 617 \text{ years}$$

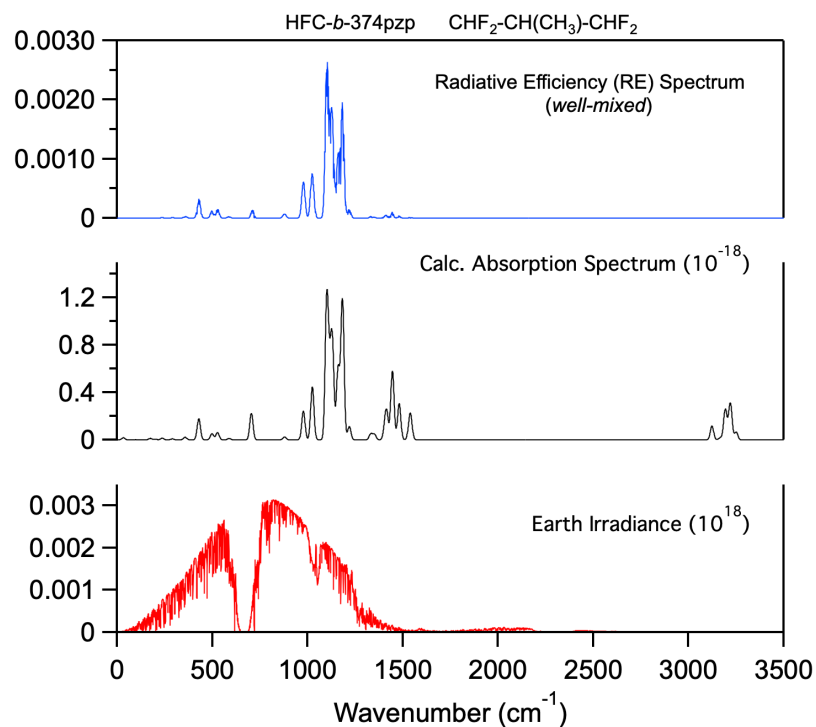
$$k_{\text{Rec}}(T) = NA$$



Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
33	2.2
98	0.3
175	1.5
204	0.4
237	1.8
290	1
357	2.8
429	22.8
498	6.8
527	8
588	1.5
705	28.6
879	3
978	31.4
1025	57.7
1101	152.3
1117	54
1130	98.1
1160	76.5
1183	151.7
1219	14.5
1332	6.4
1351	6
1404	8.8
1415	29.4
1445	70
1451	6
1481	39.5
1535	13
1542	18.5
3123	15.1
3168	2.4
3193	32.9
3215	17.2
3222	25.9
3250	8.5

Radiative Efficiency Spectrum



## HFC-*b*-374qyq

Molecular Formula: CH<sub>2</sub>F-CF(CH<sub>2</sub>F)-CH<sub>2</sub>F  
 CAS RN: 65781-28-4  
 Molecular Weight: 130.08

Global Atmospheric Lifetime (years): 4.59  
 Tropospheric Atmospheric Lifetime (years): 4.78  
 Stratospheric Atmospheric Lifetime (years): 112.8

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.141	0.142
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		1119
GWP <sub>100</sub>		308
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		585
GTP <sub>50</sub>		62
GTP <sub>100</sub>		43

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 1.12 \times 10^{-14}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 7.83 \times 10^{-15}$$

$$\tau_{\text{Global}}^{\text{OH}} = 4.62 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 4.78 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 134.1 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 6.0 \times 10^{-11}$$

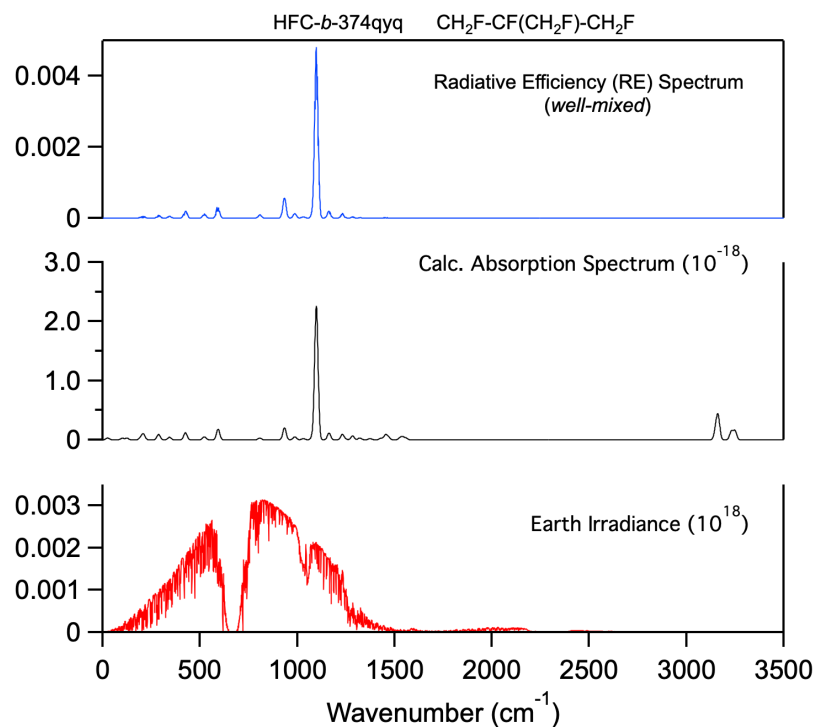
$$\tau_{\text{O}(\text{1D})} = 617 \text{ years}$$

$$k_{\text{Rec}}(T) = NA$$

Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
25	4.2
100	3.4
124	3.8
195	4.7
209	12
287	11.6
343	5.6
387	0.4
425	15.3
522	6.5
593	23
807	3.9
934	25.9
987	6.4
1031	2.7
1076	4.1
1094	82.6
1099	217.7
1163	14.7
1231	11.3
1245	1.6
1284	8.2
1321	4.1
1374	2.9
1430	3.4
1453	10.1
1468	5.7
1528	4
1541	5.4
1558	3.8
3150	20.5
3162	30
3164	19.4
3230	17.8
3248	8.2
3250	11.5

Radiative Efficiency Spectrum



## HFC-*b*-374p<sub>zq</sub>

Molecular Formula: CHF<sub>2</sub>-CH(CH<sub>2</sub>F)-CH<sub>2</sub>F  
 CAS RN: 161791-29-3  
 Molecular Weight: 130.08

Global Atmospheric Lifetime (years): 1.64  
 Tropospheric Atmospheric Lifetime (years): 1.70  
 Stratospheric Atmospheric Lifetime (years): 49.9

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.167	0.150
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		428
GWP <sub>100</sub>		116
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		150
GTP <sub>50</sub>		20
GTP <sub>100</sub>		16

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 2.99 \times 10^{-14}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 2.21 \times 10^{-14}$$

$$\tau_{\text{Global}}^{\text{OH}} = 1.65 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 1.70 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 54.3 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 6.0 \times 10^{-11}$$

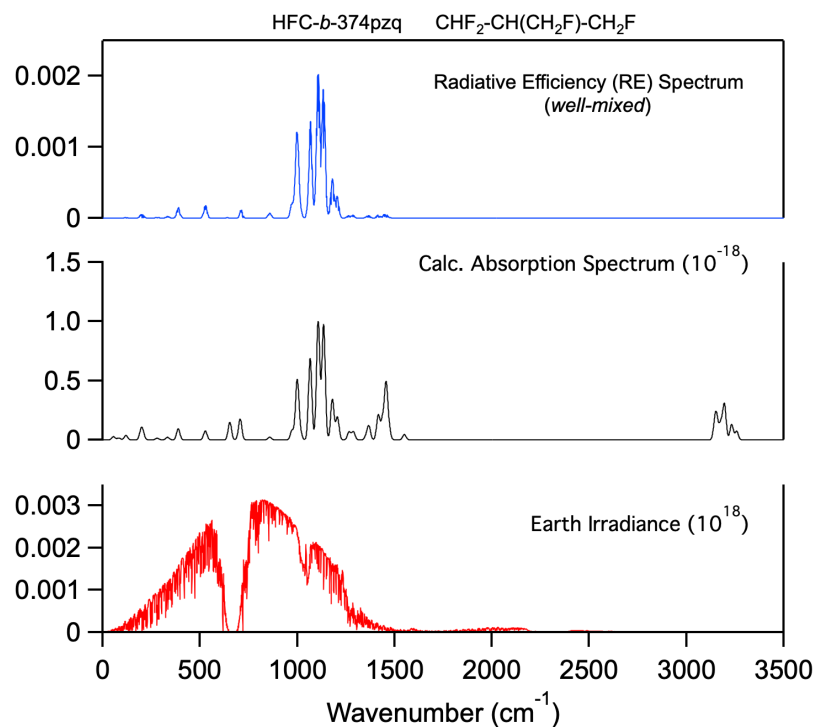
$$\tau_{\text{O}(\text{1D})} = 617 \text{ years}$$

$$k_{\text{Rec}}(T) = NA$$

Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
55	3.4
82	2
119	4.8
198	11.3
208	4.6
280	1.7
333	2.7
388	12.1
527	9.8
653	19.1
706	22.7
858	2.9
973	10.3
999	63.8
1014	8.7
1066	88.3
1107	128.3
1135	124.9
1180	44
1206	24.6
1266	8.5
1288	8.9
1355	4.3
1368	14
1416	26.6
1438	20.7
1456	58.6
1471	11.4
1550	4.7
1551	1.1
3146	15.5
3155	19.9
3176	17.7
3195	38.4
3232	16.8
3258	9.2

Radiative Efficiency Spectrum





## HFC-*b*-383mz

Molecular Formula: CF<sub>3</sub>-CH(CH<sub>3</sub>)-CH<sub>3</sub>  
 CAS RN: 1550-49-8  
 Molecular Weight: 112.09

Global Atmospheric Lifetime (years): 0.99  
 Tropospheric Atmospheric Lifetime (years): 1.02  
 Stratospheric Atmospheric Lifetime (years): 32.2

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.167	0.136
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		271
GWP <sub>100</sub>		74
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		87
GTP <sub>50</sub>		13
GTP <sub>100</sub>		10

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 4.87 \times 10^{-14}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 3.67 \times 10^{-14}$$

$$\tau_{\text{Global}}^{\text{OH}} = 0.99 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 1.02 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 34.3 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 7.0 \times 10^{-11}$$

$$\tau_{\text{O}(\text{^1D})} = 529 \text{ years}$$

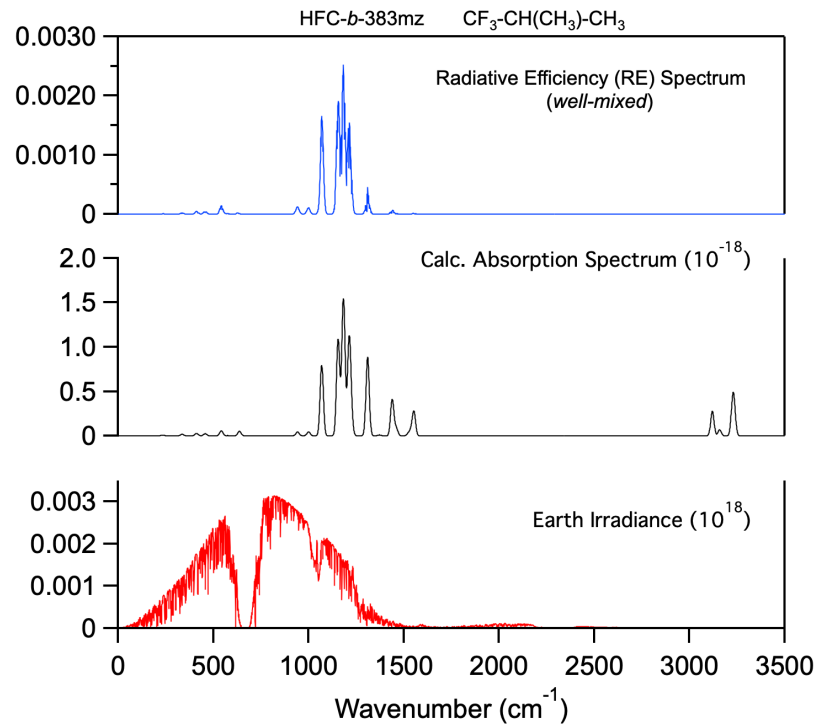
$$k_{\text{Rec}}(T) = NA$$



Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
78	0
206	0
234	0.3
234	0.7
268	0.3
336	2.2
412	3.5
457	3
542	7.3
576	0.4
637	6.8
786	0
942	5.8
962	0.1
1000	5.9
1069	101.9
1155	138.7
1183	198
1213	135.5
1225	23.2
1310	113.9
1372	1.2
1439	50.6
1441	1.5
1460	11.3
1525	0.7
1525	2.8
1538	6.4
1553	34.3
3119	20.1
3121	15.8
3158	8.7
3222	0
3226	37.5
3233	14
3235	19.5

Radiative Efficiency Spectrum



## HFC-*b*-383py

Molecular Formula: CHF<sub>2</sub>-CF(CH<sub>3</sub>)-CH<sub>3</sub>  
 CAS RN: 66587-76-6  
 Molecular Weight: 112.09

Global Atmospheric Lifetime (years): 3.80  
 Tropospheric Atmospheric Lifetime (years): 3.95  
 Stratospheric Atmospheric Lifetime (years): 95.4

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.149	0.148
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		1128
GWP <sub>100</sub>		309
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		535
GTP <sub>50</sub>		59
GTP <sub>100</sub>		43

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 1.34 \times 10^{-14}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 9.46 \times 10^{-15}$$

$$\tau_{\text{Global}}^{\text{OH}} = 3.82 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 3.95 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 116.4 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 7.0 \times 10^{-11}$$

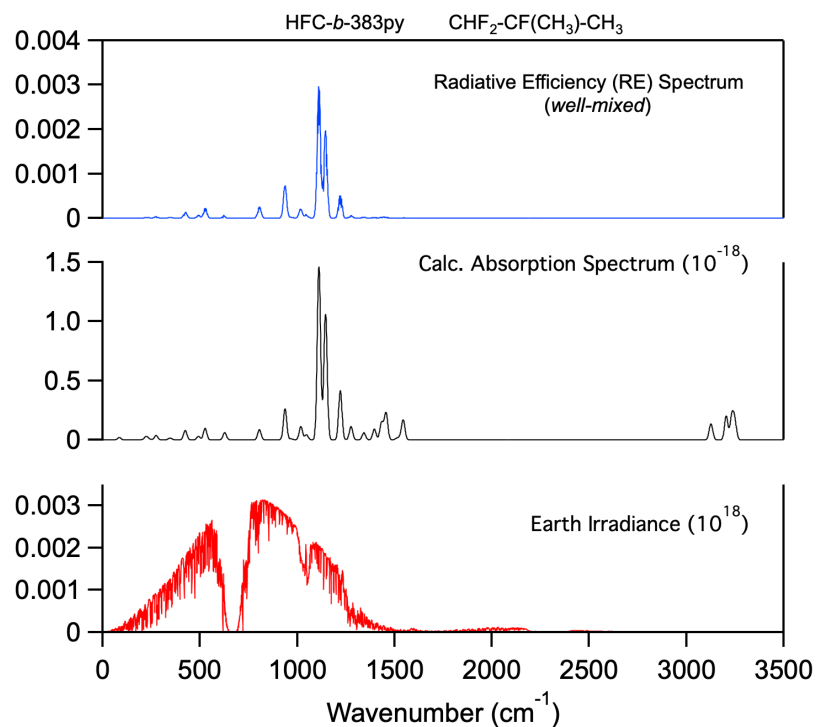
$$\tau_{\text{O}(\text{1D})} = 529 \text{ years}$$

$$k_{\text{Rec}}(T) = NA$$

Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
85	2.5
195	0.2
222	3.4
235	1.1
274	4.7
343	1.1
350	0.9
424	10.1
492	3.8
526	12.5
627	7.9
805	11.1
937	33.4
970	0.9
1018	14.5
1047	5.6
1111	187.9
1145	136.3
1221	53.5
1276	14.5
1342	7.6
1396	11.7
1432	17
1446	7.2
1457	25.9
1512	1.4
1516	0.6
1533	3.8
1545	20.2
3123	10.8
3130	7.9
3204	25.8
3231	18.7
3237	5.9
3245	14.3
3252	8

Radiative Efficiency Spectrum



## HFC-*b*-383pz

Molecular Formula: CHF<sub>2</sub>-CH(CH<sub>3</sub>)-CH<sub>2</sub>F  
 CAS RN: 66587-77-7  
 Molecular Weight: 112.09

Global Atmospheric Lifetime (years): 0.68  
 Tropospheric Atmospheric Lifetime (years): 0.70  
 Stratospheric Atmospheric Lifetime (years): 25

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.139	0.102
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		140
GWP <sub>100</sub>		38
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		44
GTP <sub>50</sub>		6
GTP <sub>100</sub>		5

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 7.00 \times 10^{-14}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 5.36 \times 10^{-14}$$

$$\tau_{\text{Global}}^{\text{OH}} = 0.68 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 0.70 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 25 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 7.0 \times 10^{-11}$$

$$\tau_{\text{O}(\text{1D})} = 529 \text{ years}$$

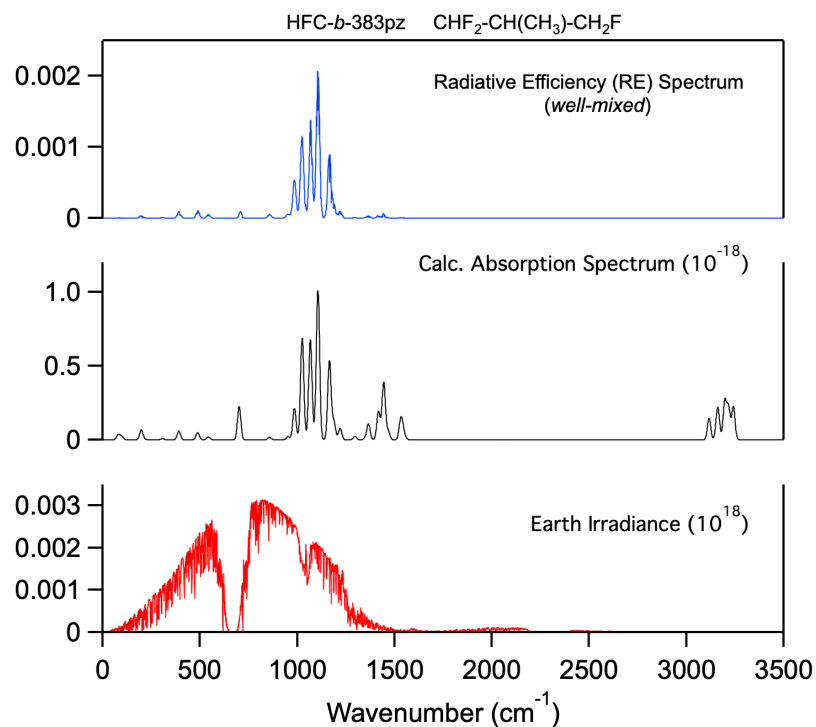
$$k_{\text{Rec}}(T) = NA$$



Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
80	4.6
98	2.8
198	8.5
218	0.4
242	0
307	1
391	7.6
488	6.1
543	2.6
701	28.9
857	2.2
952	2.7
985	27.2
1025	88.2
1067	87
1106	129.9
1165	68.6
1188	15.8
1220	10.1
1296	2.9
1352	1.9
1366	13.4
1417	24.6
1444	50
1446	0.1
1467	7.5
1530	13.3
1540	10.5
1554	2
3116	18.9
3154	5.1
3162	24.9
3197	33.3
3216	27.6
3239	9.7
3242	19.3

Radiative Efficiency Spectrum



## HFC-*b*-383qy

Molecular Formula: CH<sub>2</sub>F-CF(CH<sub>3</sub>)-CH<sub>2</sub>F  
 CAS RN: 161791-26-0  
 Molecular Weight: 112.09

Global Atmospheric Lifetime (years): 2.36  
 Tropospheric Atmospheric Lifetime (years): 2.44  
 Stratospheric Atmospheric Lifetime (years): 66.0

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.118	0.112
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		531
GWP <sub>100</sub>		145
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		206
GTP <sub>50</sub>		26
GTP <sub>100</sub>		20

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 2.11 \times 10^{-14}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 1.53 \times 10^{-14}$$

$$\tau_{\text{Global}}^{\text{OH}} = 2.36 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 2.44 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 75.5 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 7.0 \times 10^{-11}$$

$$\tau_{\text{O}(\text{1D})} = 529 \text{ years}$$

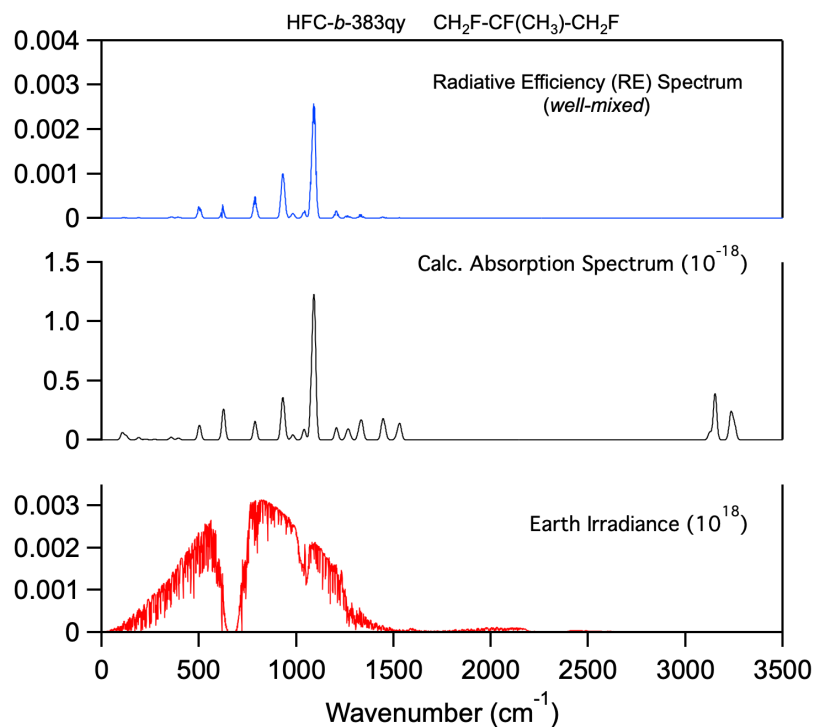
$$k_{\text{Rec}}(T) = NA$$



Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
106	7.7
126	4.3
190	2.5
226	0.8
271	0.5
354	1.4
359	1.5
394	1.9
502	15.8
626	33.4
788	20.1
929	39
939	12.5
982	5.4
1040	11.3
1079	49.3
1092	140.4
1206	13.4
1260	6.7
1271	7.8
1324	11.2
1337	17
1442	13.4
1448	8.7
1457	6.3
1518	4.9
1525	1.9
1531	6.3
1534	9.3
3125	8.2
3150	25.1
3154	26.7
3226	3.7
3234	25.8
3249	12.1
3256	5.7

Radiative Efficiency Spectrum





## HFC-*b*-383qzq

Molecular Formula: CH<sub>2</sub>F-CH(CH<sub>2</sub>F)-CH<sub>2</sub>F  
 CAS RN: 66675-40-9  
 Molecular Weight: 112.09

Global Atmospheric Lifetime (years): 1.02  
 Tropospheric Atmospheric Lifetime (years): 1.05  
 Stratospheric Atmospheric Lifetime (years): 33.1

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.107	0.088
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		180
GWP <sub>100</sub>		49
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		58
GTP <sub>50</sub>		8
GTP <sub>100</sub>		7

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 4.73 \times 10^{-14}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 3.56 \times 10^{-14}$$

$$\tau_{\text{Global}}^{\text{OH}} = 0.98 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 1.05 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 35.3 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 7.0 \times 10^{-11}$$

$$\tau_{\text{O}(\text{1D})} = 529 \text{ years}$$

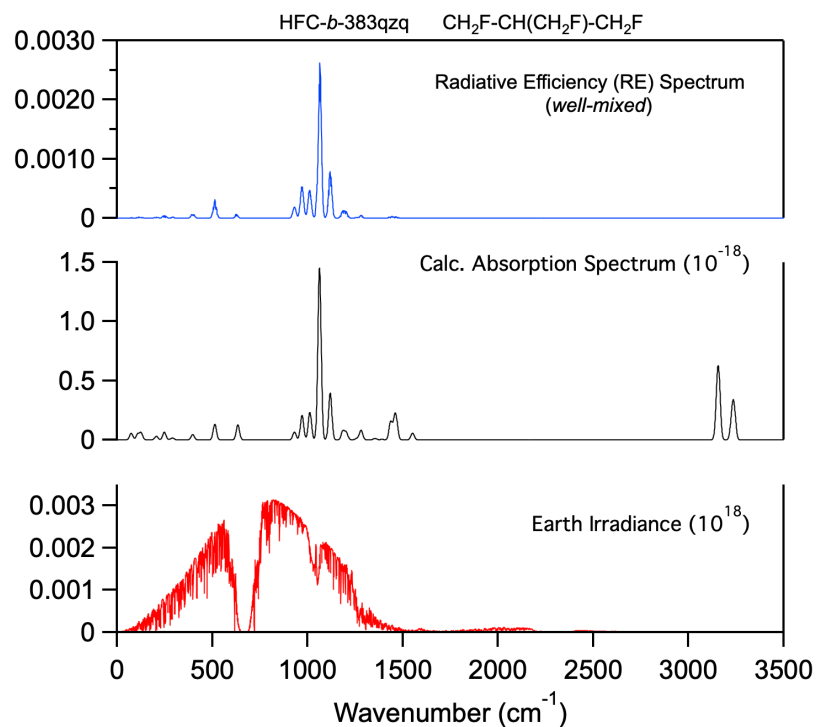
$$k_{\text{Rec}}(T) = NA$$



Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
74	7.1
108	6
126	7.4
206	3.9
248	8.3
290	2.1
397	5.7
513	16.9
634	16.2
863	0.1
931	8.4
971	26.6
1012	29.9
1062	67.6
1063	119.2
1119	50.8
1185	9.4
1203	7.9
1259	1.6
1280	8.1
1284	2.6
1354	1.5
1391	0.5
1436	19.5
1457	19.5
1467	14.7
1547	2
1552	3.9
1554	1.6
3145	2.5
3150	30.8
3156	27.4
3161	33.8
3228	22.1
3237	17.3
3242	15.2

Radiative Efficiency Spectrum



## HFC-*b*-392qy

Molecular Formula: CH<sub>2</sub>F-CF(CH<sub>3</sub>)-CH<sub>3</sub>  
 CAS RN: 62126-92-5  
 Molecular Weight: 94.10

Global Atmospheric Lifetime (years): 1.20  
 Tropospheric Atmospheric Lifetime (years): 1.24  
 Stratospheric Atmospheric Lifetime (years): 37.5

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.087	0.074
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		212
GWP <sub>100</sub>		58
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		70
GTP <sub>50</sub>		10
GTP <sub>100</sub>		8

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 4.05 \times 10^{-14}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 3.03 \times 10^{-14}$$

$$\tau_{\text{Global}}^{\text{OH}} = 1.20 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 1.24 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 40.8 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 8.0 \times 10^{-11}$$

$$\tau_{\text{O}(\text{1D})} = 463 \text{ years}$$

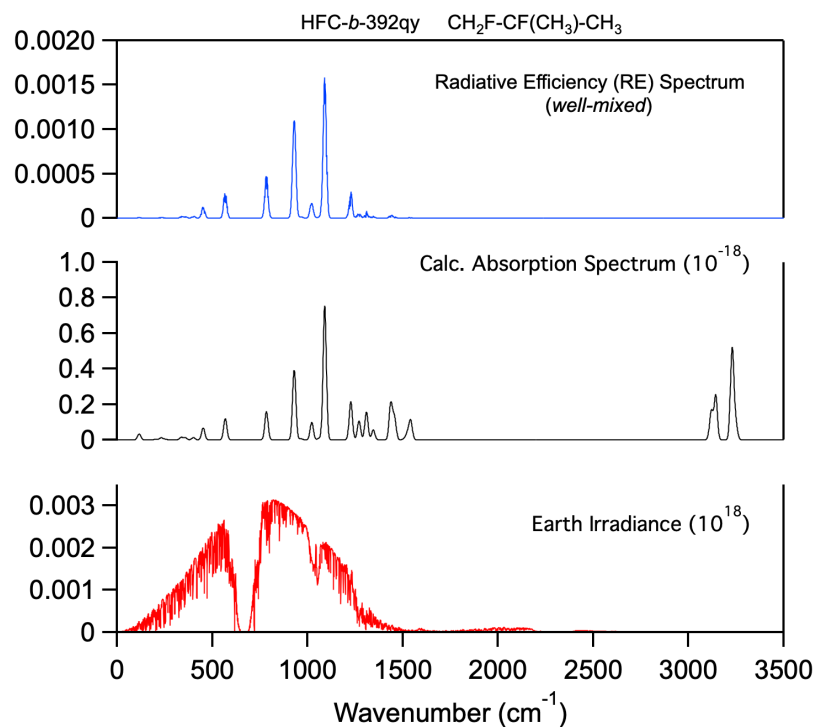
$$k_{\text{Rec}}(T) = NA$$



Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
116	4.2
201	0.3
231	1.5
251	0.5
337	1.7
357	1.6
401	1.6
452	8.5
568	15.2
784	20.3
929	42.7
934	8.6
966	0.7
1022	12.6
1060	1.1
1090	96.9
1227	27.6
1270	13.4
1309	20.1
1345	7.2
1436	23.5
1445	4.9
1457	14.6
1509	0.8
1517	0.9
1526	3
1532	2.8
1542	12.5
3116	10.2
3123	12.5
3143	31.8
3220	0.2
3224	10.5
3228	36.4
3234	25.3
3250	9.3

Radiative Efficiency Spectrum



## HFC-*b*-392qz

Molecular Formula: CH<sub>2</sub>F-CH(CH<sub>3</sub>)-CH<sub>2</sub>F  
 CAS RN: 62126-93-6  
 Molecular Weight: 94.10

Global Atmospheric Lifetime (years): 0.33  
 Tropospheric Atmospheric Lifetime (years): 0.34  
 Stratospheric Atmospheric Lifetime (years): 25

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.078	0.044
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		35
GWP <sub>100</sub>		9
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		10
GTP <sub>50</sub>		2
GTP <sub>100</sub>		1

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 1.42 \times 10^{-13}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 1.11 \times 10^{-13}$$

$$\tau_{\text{Global}}^{\text{OH}} = 0.34 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 0.34 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 25 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 8.0 \times 10^{-11}$$

$$\tau_{\text{O}(\text{1D})} = 463 \text{ years}$$

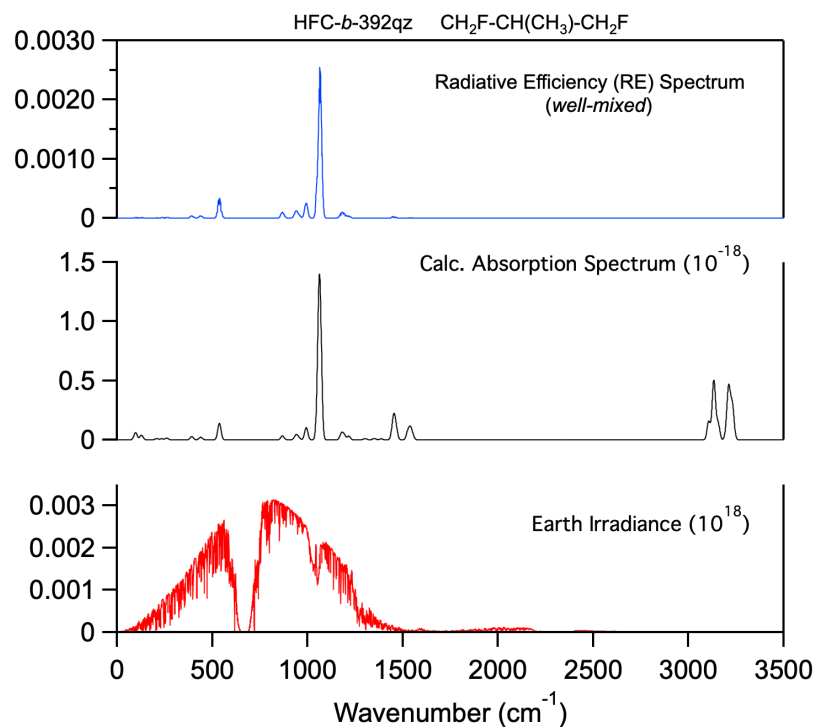
$$k_{\text{Rec}}(T) = NA$$



Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
97	8
128	5.1
208	1.4
234	1.1
261	1.9
392	3.4
439	2.8
537	17.7
868	4.3
939	5.1
953	2.3
993	13.1
1058	86.4
1066	114.3
1178	6.6
1192	4.8
1216	3.8
1268	0.2
1302	1.3
1350	1.4
1386	1
1446	0.9
1451	21.8
1463	13.5
1527	8.8
1540	9.1
1546	2.4
1552	2.8
3106	19.8
3131	24.1
3134	40.7
3155	18.1
3202	13.6
3212	49.6
3229	25.5
3234	12.4

Radiative Efficiency Spectrum



## HFC-*b*-392pz

Molecular Formula: CHF<sub>2</sub>-CH(CH<sub>3</sub>)-CH<sub>3</sub>  
 CAS RN: 62126-91-4  
 Molecular Weight: 94.10

Global Atmospheric Lifetime (years): 0.31  
 Tropospheric Atmospheric Lifetime (years): 0.31  
 Stratospheric Atmospheric Lifetime (years): 25

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.127	0.069
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		51
GWP <sub>100</sub>		14
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		15
GTP <sub>50</sub>		2
GTP <sub>100</sub>		2

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 1.51 \times 10^{-13}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 1.20 \times 10^{-13}$$

$$\tau_{\text{Global}}^{\text{OH}} = 0.31 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 0.31 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 25 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 8.0 \times 10^{-11}$$

$$\tau_{\text{O}(\text{1D})} = 463 \text{ years}$$

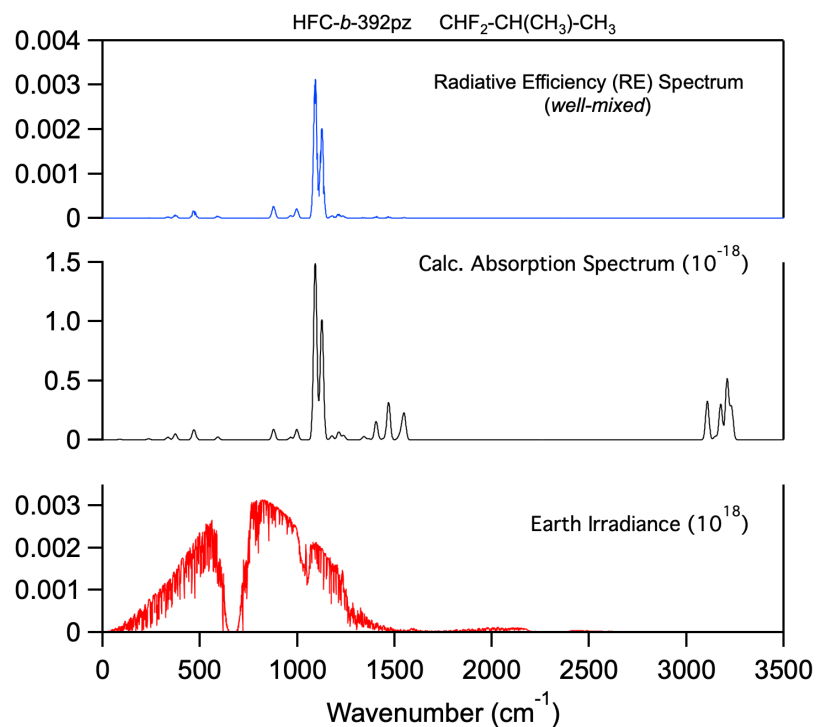
$$k_{\text{Rec}}(T) = NA$$



Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
87	0.7
203	0.1
232	0.4
238	0.7
335	2.8
373	6.4
467	8.9
475	2.8
592	3
878	11.5
957	0
966	2.7
997	11.1
1092	191.4
1126	130.6
1178	4.3
1213	8.5
1238	4.8
1342	3.7
1367	1.1
1405	19.8
1440	0.9
1454	1
1469	40.6
1521	2
1526	1
1537	10.3
1550	25.5
3106	19.2
3108	23.1
3148	3.7
3176	39
3204	2.2
3209	63.6
3231	14.2
3232	20.7

Radiative Efficiency Spectrum





## HFC-b-3-10-1q

Molecular Formula: CH<sub>2</sub>F-CH(CH<sub>3</sub>)-CH<sub>3</sub>  
 CAS RN: 359-00-2  
 Molecular Weight: 76.11

Global Atmospheric Lifetime (years): 0.09  
 Tropospheric Atmospheric Lifetime (years): 0.09  
 Stratospheric Atmospheric Lifetime (years): 25

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.041	0.011
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		3
GWP <sub>100</sub>		1
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		1
GTP <sub>50</sub>		0
GTP <sub>100</sub>		0

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(T) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 5.13 \times 10^{-13}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 4.22 \times 10^{-13}$$

$$\tau_{\text{Global}}^{\text{OH}} = 0.09 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 0.09 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 25 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(T) = 9.0 \times 10^{-11}$$

$$\tau_{\text{O}(\text{1D})} = 411 \text{ years}$$

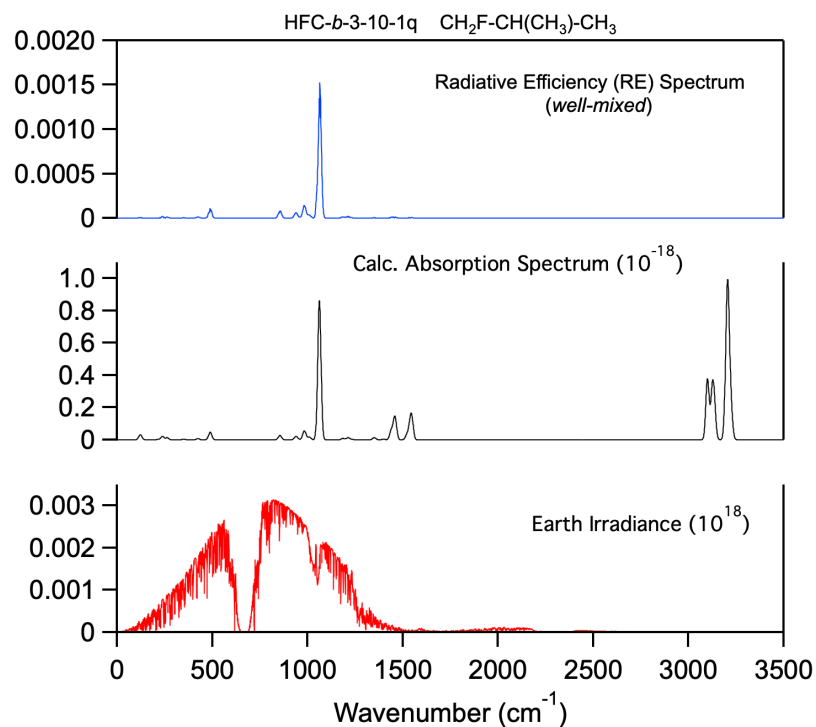
$$k_{\text{Rec}}(T) = NA$$



Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
122	4.1
214	0.3
238	2.8
263	1.6
350	0.5
424	0.9
489	6.1
855	3.5
939	2.8
954	0.2
983	7.2
1009	2.2
1062	110.6
1185	1.1
1213	1.7
1235	0.3
1294	0.1
1350	1.7
1399	0.5
1439	6.5
1449	1.9
1459	17.6
1519	1
1522	2.2
1535	6.5
1546	6.9
1546	11.2
3098	25.6
3101	23.5
3125	36.5
3136	20.6
3195	5.3
3197	21
3205	83.3
3211	33.7
3224	20.1

Radiative Efficiency Spectrum



## HFC-*b*-3-10-1sy

Molecular Formula: CH<sub>3</sub>-CF(CH<sub>3</sub>)-CH<sub>3</sub>  
 CAS RN: 353-61-7  
 Molecular Weight: 76.11

Global Atmospheric Lifetime (years): 1.21  
 Tropospheric Atmospheric Lifetime (years): 1.25  
 Stratospheric Atmospheric Lifetime (years): 37.4

	<i>Well-mixed</i>	<i>Lifetime and Stratosphere adjusted</i>
Radiative Efficiency (RE):	0.046	0.039
Global Warming Potential (GWP <sub>H</sub> ):		
GWP <sub>20</sub>		140
GWP <sub>100</sub>		38
Global Temperature Change Potentials (GTP <sub>H</sub> ):		
GTP <sub>20</sub>		46
GTP <sub>50</sub>		7
GTP <sub>100</sub>		5

\* RE units: W m<sup>2</sup> ppb<sup>-1</sup>  
 \* GWP and GTP: Relative to CO<sub>2</sub>

### Atmospheric Loss Processes \*\*\*\*\*

#### OH Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Rec}}(\text{T}) = NA$$

$$k_{\text{SAR}}(298 \text{ K}) = 4.02 \times 10^{-14}$$

$$k_{\text{SAR}}(272 \text{ K}) \approx 3.01 \times 10^{-14}$$

$$\tau_{\text{Global}}^{\text{OH}} = 1.21 \text{ years}$$

$$\tau_{\text{Trop}}^{\text{OH}} = 1.25 \text{ years}$$

$$\tau_{\text{Strat}}^{\text{OH}} = 41 \text{ years}$$

#### O(<sup>1</sup>D) Reactivity (cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>)

$$k_{\text{Est}}(\text{T}) = 9.0 \times 10^{-11}$$

$$\tau_{\text{O}(\text{1D})} = 411 \text{ years}$$

$$k_{\text{Rec}}(\text{T}) = NA$$



Calculated Infrared Spectrum

Band Center (cm <sup>-1</sup> )	Band Strength (km mole <sup>-1</sup> )
166	0
255	0
255	0
339	1.3
339	1.3
409	1.5
462	5.2
462	5.2
766	11.9
921	56.4
949	0.1
949	0.1
982	0
1069	1
1069	1
1248	52.2
1321	14.9
1321	14.9
1437	25.9
1437	25.9
1453	11.7
1500	0
1515	0.5
1515	0.5
1529	2.2
1529	2.2
1550	9.4
3112	20.4
3112	20.4
3117	5.2
3218	2.1
3218	2.1
3224	0
3227	50.7
3230	36.7
3230	36.7

Radiative Efficiency Spectrum

