Supporting Information

A Nanographene-Based Two-Dimensional Covalent Organic Framework as a Stable and Efficient Photocatalyst

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A Nanographene-Based Two-Dimensional Covalent Organic Framework as a Stable and Efficient Photocatalyst

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Abstract: Synthesis of covalent organic frameworks (COFs) with desirable organic units furnishes advanced materials with unique functionalities. As an emerging class of two-dimensional (2D) COFs, sp²-carbon–conjugated COFs provide a facile platform to build highly stable and crystalline porous polymers. Herein, a 2D olefin-linked COF was prepared by employing nanographene, namely, dibenzo[hi,fs]ovalene (DBOV), as a building block. The DBOV-COF exhibits unique ABC-stacked lattices, enhanced stability, and charge-carrier mobility of ~0.6 cm²·V⁻¹·s⁻¹ inferred from ultrafast terahertz conductivity measurements. The ABC-stacking structure was revealed by the high-resolution transmission electron microscopy and powder X-ray diffraction. DBOV-COF demonstrated remarkable photocatalytic activity in hydroxylation, which was attributed to the exposure of narrow-energy-gap DBOV cores in the COF pores, in conjunction with efficient charge transport following light absorption.
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Experimental Procedures

General Methods: All reactions were carried out under Ar atmosphere with standard Schlenk line technique. Unless otherwise noted, all reagents were purchased from commercial chemical companies and used without further purification. Column chromatography separation was performed with silica gel (particle size 0.04–0.06 mm). Solution Nuclear Magnetic Resonance (NMR) spectra were employed by Bruker DPX 300, and Bruker DRX 500 MHz NMR spectrometers. Chemical shifts (δ) were expressed in ppm relative to the deuterium solvents (1,2-dichlorobenzene (o-DCB)-d₆, ¹H: 7.20 ppm, ¹³C: 132.35 ppm). Coupling constants (J) were recorded in Hertz. High resolution mass spectra (HR MS) were recorded on a Bruker Reflex II-TOF spectrometer by matrix-assisted laser decomposition/ionization (MALDI) using 7,7,8,8-tetracyanoquinodimethane (TCNO) as matrix calibrated with poly(ethylene glycol). UV-vis absorption spectra were measured on a Perkin-Elmer Lambda 900 spectrometer. Infrared spectroscopy was recorded on a Bruker TENSOR II FTIR spectrometer. Each sample was conducted with a scan number of 64 and the background was subtracted. Cyclic voltammetry (CV) measurements were performed on a GSTAT-12 in a three-electrode cell in dichloromethane solution of n-Bu₄NPF₆ (0.1 M) at a scan rate of 50 mV/s at room temperature. A silver wire, a Pt wire and a glassy carbon electrode were used as the reference electrode, the counter electrode, and the working electrode, respectively. Anhydrous THF suspension of DBOV-COF was dropped on the working electrode and dried for the measurement. Scanning electron microscope (SEM) images were recorded on a LEO Gemini 1530 (Carl Zeiss AG, Germany) using an in lens SE detector, for which DBOV-COF suspension was drop-cast on a conductive tape. Thermal gravimetric analyses (TGA) measurement was performed under nitrogen with temperature increasing from 25 °C to 800 °C at a rate of 10 °C/min. Powder X-ray diffraction (PXRD) data were recorded on a Rigaku SmartLab X-ray diffractometer by setting powder on glass substrate, from 2θ = 2.0° up to 30° with 0.02° increment. Nitrogen gas sorption curves were measured on a Micrometrics TriStar II Plus gas sorption instrument. Before measurement, powder samples were degassed in vacuum at 120 °C for 6 h. The Brunauer-Emmett-Teller (BET) approach was introduced to evaluate the surface areas. Pore volume was calculated from the nitrogen gas sorption curve using the non-local density functional theory (NLDF) model. Molecular modeling and Pawley refinement were carried out using Reflex, a software package for crystal determination from XRD pattern, implemented in MS modeling version 4.4 (Accelrys Inc.). Pawley refinement to optimize the lattice parameters iteratively until the Rl and Rp values converge. Geometries of monolayer, AA, AB and ABC-stacking DBOV-DCTMP-COF were calculated using Density Functional Tight Binding (DFTB) as implemented in DFTB+ version 20.1.[1] All atom pairs were described using standard parameters from the mio-0-1 parameter set.[2] Following geometry optimization, the band structure, Density of States (DOS) and effective mass were calculated using 3rd order DFTB and the 3ob-3-1 parameter set.[3] All property calculations were undertaken in AMS-DFTB [AMS DFTB 2020, SCM, Theoretical Chemistry, Vrije Universiteit, Amsterdam, The Netherlands].[4]

Solid State NMR Spectroscopy

¹H MAS NMR and ¹³C CP/MAS NMR measurements were performed with a Bruker Avance III console operating at 700.25 MHz ¹H Larmor frequency, using a double-resonance MAS probe supporting zirconia MAS rotors with 2.5 mm outer diameter spinning at 25 kHz MAS frequency. The rf nutation frequency was adjusted to 100 kHz corresponding to a 2.5 μs 90° pulse length for signal excitation as well as for heteronuclear dipolar decoupling during acquisition, using the swFTPPM scheme[5] for efficient ¹H decoupling. 1024 transients with a repetition delay of 10 s were recorded for the CP/MAS NMR spectra, using 1 ms CP contact pulse and a 90-100% amplitude ramp on the ¹H channel at ambient conditions.

High-Resolution Transmission Electron Microscopy (HR-TEM)

HR-TEM analysis was conducted on ThermoFisher Titan G2 electron microscope, operated at 200 kV. This microscope was equipped with a Schottky XFEG electron source, S-TWIN objective lens, image Cs-corrector (CEOS GmbH), with Gatan 2k×2k UltrascanXP1000 camera. A Fischione 2020 single tilt tomography holder was used for this work. TEM grid precoated with a lacy microgrid (NS-C15, pore size 1.5 – 8 μm) was purchased from Okenshoji Co., Ltd. DBOV-COF (0.18 mg) was bath-sonicated in 18 mL of dichloromethane for 1 h. Then, 10 μL of the suspension was placed onto a microgrid and the excessive amount of solvent was blotted by a filter paper. This procedure was repeated for 5 times. The microgrid was dried under reduced pressure for 3 hours before observation by the electron microscope. We used an electron dose rate of (1.2-1.9) × 10⁶ e⁻nm²s⁻¹. The images were collected as a .dm4 format file on DigitalMicrograph software (Gatan Inc.) and processed using ImageJ 1.53c software. The HR-TEM images were filtered using a bandpass filter (filtering structures smaller than 3 pixels and larger than 40 pixels, tolerance of direction: 5%). TEM simulation images were generated by using a multi-slice procedure implemented in the ELBis software.[6]

Charge Carrier Mobility Measurement

Optical-pump THz-probe (OPTP) measurements were conducted using an amplified Ti:sapphire laser emitting ~50 fs laser pulses with a central wavelength of 800 nm and a repetition rate of 1 kHz. The DBOV-COF powder samples were sandwiched between two fused silica substrates and measured in a transmission geometry in a dry-nitrogen purged environment. The fundamental 800 nm beam is split into three pathways, namely, optical excitation, THz generation and sampling. For optical excitations, a 400 nm pump beam is obtained by frequency doubling of 800 nm beam using a β-barium borate (BBO) crystal. A single-cycle THz probe pulse (covering the bandwidth of 0.4-2.0 THz) is generated via optical rectification by focusing 800 nm pulses onto a 1 mm thick ZnTe (110) crystal. The
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generated THz pulse is focused on the samples by a pair of off-axis parabolic mirrors for OPTP measurements, and the time-dependent THz electrical field is detected by electro-optic sampling method.

The frequency-resolved complex photoconductivity of DBOV-COF was measured at ~3 ps after photoexcitation and fitted by the Drude-Smith (DS) model:

\[ \sigma_{DS}(\omega) = \frac{\omega_p^2 E_0 \tau}{1 - i \omega \tau} \times \left( 1 + \frac{c}{1 - i \omega \tau} \right) \]

where \( \omega_p \), \( E_0 \), \( \tau \), and \( c \) represent plasma frequency, vacuum permittivity, Drude-Smith scattering time, and the \( c \) parameter, respectively. The Drude-Smith model, as a deviated model of the classical Drude model, has been extensively used to describe the motion of charge carriers subject to backscattering events due to, e.g., grain boundary and structural configuration. Here, we use the obtained Drude-Smith scattering time to approximate the charge carrier scattering time. The parameter \( c \) characterizes the back scattering possibility (with \( c = 0 \) for Drude-like transport and \( c \approx 1 \) for localized charge carriers with preferential 100% backscattering). The best fit to the data is shown by the solid lines in Figure 4b.

We estimate the charge mobility of DBOV-COF in the dc limit using equation:

\[ \mu_{DS}(\omega \to 0) = \frac{e \tau}{m^*} (1 + c) \]

where \( e \) is elementary charge and \( m^* \) is effective mass.

**Bi-exponential fit and averaged carrier lifetime for DBOV-COF**

As discussed in the main text, we fit the decay process of THz photoconductivity dynamics of DBOV-COF by a bi-exponential model, as shown in equation (3),

\[ y = A_1 e^{-\frac{x}{t_1}} + A_2 e^{-\frac{x}{t_2}} \]

The bi-exponential fitting parameters for DBOV-COF are summarized in Table S1.

| DBOV-COF | \( A_1 \) (unitless) | \( t_1 \) (ps) | \( A_2 \) (unitless) | \( t_2 \) (ps) |
|---------|----------------------|-------------|----------------------|-------------|
|         | 4.67E-04             | 1           | 2.17E-04             | 25          |

The average lifetime (\( \bar{t} \)) for DBOV-COF is calculated using equation (4),

\[ \bar{t} = \frac{A_1 t_1 + A_2 t_2}{A_1 + A_2} \]

**Calculation details of the apparent quantum yield (A.Q.Y.)**

The energy of on photon (\( E_{\text{photon}} \)) with wavelength of \( \lambda_{\text{inc}} \) (nm) in calculated using the following equation:

\[ E_{\text{photon}} = \frac{hc}{\lambda_{\text{inc}}} \]

where \( h \) (J·s) is Planck’s constant, \( c \) (m·s\(^{-1}\)) is the speed of light and \( \lambda_{\text{inc}} \) (m) is the wavelength of the incident monochromatic light.

And the total energy of the incident monochromatic light (\( E_{\text{total}} \)) is calculated using the following equation:

\[ E_{\text{total}} = PS \]

where \( P \) (W·m\(^{-2}\)) is the power density of the incident monochromatic light, \( S \) (m\(^2\)) is the irradiation area and \( t \) (s) is the duration of the incident light exposure. The number of incident photons can be obtained through the following equation:

\[ \text{Number of incident photons} = \frac{E_{\text{total}}}{E_{\text{photon}}} = \frac{PS\lambda_{\text{inc}}}{hc} \]

Quantum yield (Q.Y.), which is widely used to evaluate the performance of photocatalysts, is defined by the following equation:

\[ \text{Q.Y.} \% = \frac{\text{Number of reacted electrons}}{\text{Number of incident photons}} \times 100 \]

However, it is difficult to directly determine the number of reacted electrons via experimental methods. As a result, the apparent quantum yield (A.Q.Y.) is defined as follow by substituting the number of product molecules formed for the number of reacted electrons.

\[ \text{A. Q. Y.} \% = \frac{\text{Number of product molecules formed}}{\text{Number of incident photons}} \times 100 = \frac{n N_A hc}{P S \lambda} \times 100 \]

**Synthetic Details:**

The starting compounds 1,[7] DCTMP,[8] g-C\(_{3}O_{2}\)N\(_{2}\)-COF[9] and TFPPy-PDA-COF[10] were prepared using previously reported methods.

**Scheme S1.** Synthetic route towards DBOV-CHO (3).
To a solution of (4-bromo-3,5-dimethylphenyl)-1,3-dioxolane (812 mg, 3.16 mmol) in anhydrous tetrahydrofuran (THF) (10 mL) was added n-butyllithium (1.1 mL, 3.5 mmol, 1.6 M in hexane) dropwise under the atmosphere of Ar at -78 °C. The mixture was stirred for 2 h. Then, the resulting mixture was transferred to the anhydrous THF (150 mL) solution of 5,14-diformylbenzo[a]dininaphtho[2,1,8-cde:1',2',3',4'-ghi]perylene (1) (400 mg, 0.791 mmol) and stirred at room temperature for 12 h. After the completion of the reaction, the solution was poured into brine (150 mL) and then extracted with diethylether (Et₂O) (100 mL) for 3 times. The combined organic layers were dried over MgSO₄, and evaporated. After drying under vacuum using an oil pump for 6 h, the residue was redissolved in anhydrous dichloromethane (DCM) (150 mL) and BF₃·OEt₂ (10 mL) was added using a syringe. The mixture was stirred at room temperature for 6 h. After completion of the reaction, the mixture was poured into saturated NaHCO₃ solution (150 mL). The organic phase was separated and dried over MgSO₄. The solvents were evaporated under reduced pressure and the crude product was directly utilized for the next step.

6,14-bis(4-formyl-2,6-dimethylphenyl)dibenzo[hi,si]ovalene (DBOV-CHO 3)

The crude product of 2 was dissolved in THF (120 mL) and 1 M HCl (10 mL) was added. The mixture was stirred at room temperature for 1 h. After completion of the reaction, the mixture was poured into a saturated aqueous NaHCO₃ solution (100 mL). The organic phase was extracted with Et₂O (100 mL) for three times and dried over MgSO₄. The solvents were evaporated under reduced pressure and the residue was purified by column chromatography over silica gel (eluent: n-hexane/DCM = 1 : 8) to give DBOV-CHO 3 (279 mg, 48% yield for three steps) as blue powder. TLC Rₜ = 0.3 (n-hexane/DCM = 1 : 8); ¹H NMR (500 MHz, o-DCB-d₆, 413 K, ppm) δ 10.18 (s, 2H), 9.36 (d, J = 8.1 Hz, 2H), 9.08 (s, 2H), 8.47 (d, J = 8.2 Hz, 2H), 8.06 (d, J = 9.1 Hz, 2H), 7.94 (t, J = 7.9 Hz, 2H), 7.85 (s, 4H), 7.65 (d, J = 9.0 Hz, 2H), 2.08 (s, 12H); Well-resolved ¹³C NMR spectrum could not be recorded due to limited solubility and strong aggregation tendency. However, UV-vis and PL spectra as reported in Figure S10 agreed very well with those of previously reported DBOV derivatives, evidencing the formation of the DBOV structure. UV-vis absorption spectra is also consistent with theoretically calculated result shown in Figure S11. HR MS (MALDI-TOF): m/z Calcd for C₅₆H₃₂O₂: 736.2402, found: 736.2397.
Scheme S2. Synthetic route towards PyDMBA.

4,4’-(pyrene-2,7-diyl)bis(3,5-dimethylbenzaldehyde) (PyDMBA)

To a degassed solution of 2,7-bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)pyrene (1.00 g, 2.20 mmol), 4-bromo-3,5-dimethylbenzaldehyde (1.03 g, 4.84 mmol) and K$_2$CO$_3$ (1.82 g, 13.2 mmol) in 1,4-dioxane/H$_2$O (100 mL/4 mL), Pd(PPh$_3$)$_4$ (127 mg, 0.110 mmol) was added. The mixture was heated at 120 °C overnight. Then the reaction mixture was cooled to room temperature and poured into H$_2$O (150 mL). The mixture was filtered and washed with 1M HCl, H$_2$O, methanol and Et$_2$O for several times. The residue was purified by column chromatography (n-hexane/DCM = 1 : 2) to give PyDMBA (0.80 g, 78% yield) as a white solid. TLC $R_f = 0.3$ (n-hexane/DCM = 1 : 2).

^1^H NMR (300 MHz, CD$_2$Cl$_2$, 298 K, ppm) δ 9.97 (s, 2H), 8.08 (s, 4H), 7.94 (s, 4H), 7.64 (s, 4H), 2.06 (s, 12H); ^1^C NMR (75 MHz, CD$_2$Cl$_2$, 298 K, ppm) δ 192.4, 148.3, 138.0, 137.7, 135.6, 131.5, 128.6, 127.7, 125.1, 123.5, 20.8. HR MS (MALDI-TOF): m/z Calcd for C$_{34}$H$_{34}$O$_6$: 466.1933, found: 466.1935.

**DBOV-COF.** A microwave tube (15 mL) placed with DBOV-CHO 3 (25 mg, 0.034 mmol), DCTMP (8.7 mg, 0.051 mmol) and $N,N$-dimethylacetamide (DMAc) (1 mL) was sonicated for 30 s and degassed through three freeze–pump–thaw cycles before sealing under vacuum. Piperidine (7.2 mg, 0.085 mmol) was added. The tube was sealed and stirred at 180 °C for 3 days. After cooling to room temperature, the deep blue colored precipitate was filtered and washed with THF and acetone for several times. The powder was dried under vacuum at 60 °C for 12 h to produce DBOV-COF in 83% yield. DBOV-COF could be further purified by washing with n-hexylamine in chlorobenzene (see Figure S1).

**DBOV-CMP.** A microwave tube (15 mL) placed with DBOV-CHO 3 (25.00 mg, 0.034 mmol), DCTMP (8.71 mg, 0.051 mmol) and DMAc/o-DCB (0.5 mL/0.5 mL) was sonicated for 30 s and degassed through three freeze–pump–thaw cycles before sealing under vacuum. Piperidine (7.22 mg, 0.085 mmol) was added. The tube was sealed and stirred at 150 °C for 3 days. After cooling to room temperature, the deep blue colored precipitate was filtered and washed with THF and acetone for several times. The powder was dried under vacuum at 60 °C for 12 h to produce DBOV-CMP in 72% yield.

**Py-DCTMP-CMP.** A microwave tube (15 mL) placed with PyDMBA (25 mg, 0.054 mmol), DCTMP (14 mg, 0.080 mmol) and DMAc (1 mL) was sonicated for 30 s and degassed through three freeze–pump–thaw cycles before sealing under vacuum. Piperidine (7.22 mg, 0.085 mmol) was added. The tube was sealed and stirred at 150 °C for 3 days. After cooling to room temperature, the yellow colored precipitate was filtered and washed with THF and acetone for several times. The powder was dried under vacuum at 60 °C for 12 h to produce Py-DCTMP-CMP in 77% yield.

**General procedure for photocatalytic hydroxylation of aryl boronic acids to aryl phenols with diverse catalysts.** Arylboronic acid (0.50 mmol), triethylamine (TEA) (1.50 mmol), photocatalyst (3.0 mg), and acetoneitrile (CH$_3$CN) (3.0 mL) were added to a 10 mL glass tube with a stirring bar. The mixture was stirred for certain time at room temperature under visible light irradiation with white LED lamp (0.07 W/cm$^2$) and the presence of oxygen (1 atm). Subsequently, the COF or CMP catalyst was isolated by centrifugation and washed with DCM for several times. The organic phases were combined, and dried under vacuum to yield the crude product, which was further purified by silica gel column chromatography to determine the isolated yields as listed in Tables 1 and 2. NMR data are as follows.

**pyren-1-ol**

\[
\begin{align*}
&\text{OH} \\
\end{align*}
\]

^1^H NMR (300 MHz, DMSO-$_d_6$, 298 K, ppm) δ 10.68 (s, 1H), 8.38 (d, $J = 9.2$ Hz, 1H), 8.18 – 8.02 (m, 6H), 7.98 (t, $J = 9.5$ Hz, 1H), 7.65 (d, $J = 8.3$ Hz, 1H). ^1^C NMR (75 MHz, DMSO-$_d_6$, 298 K, ppm) δ 152.1, 131.3(3), 131.2(8), 127.4, 126.2, 126.1, 125.5, 125.4, 124.4, 123.9, 123.8, 123.6, 121.4, 118.0, 117.7, 113.2.

**4-hydroxybenzonitrile**

\[
\begin{align*}
&\text{NC} \\
\end{align*}
\]
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$^1$H NMR (300 MHz, DMSO-$d_6$, 298 K, ppm) δ 11.04 (s, 1H), 8.11 (d, $J = 9.1$ Hz, 2H), 6.93 (d, $J = 9.0$ Hz, 2H). $^{13}$C NMR (75 MHz, DMSO-$d_6$, 298 K, ppm) δ 161.6, 134.2, 119.5, 116.4, 101.0.

[1,1'-biphenyl]-4-ol

\[
\begin{align*}
\text{HO} &\text{-} &\text{-} &\text{OH} \\
\end{align*}
\]

$^1$H NMR (300 MHz, DMSO-$d_6$, 298 K, ppm) δ 9.54 (s, 1H), 7.57 (d, $J = 7.7$ Hz, 2H), 7.48 (d, $J = 8.2$ Hz, 2H), 7.40 (t, $J = 7.6$ Hz, 2H), 7.27 (t, $J = 7.3$ Hz, 1H), 6.85 (d, $J = 8.2$ Hz, 2H). $^{13}$C NMR (75 MHz, DMSO-$d_6$, 298 K, ppm) δ 157.1, 140.2, 130.9, 128.8, 127.7, 126.3, 125.9, 115.7.

[1,1'-biphenyl]-4,4'-dil

\[
\begin{align*}
\text{HO} &\text{-} &\text{-} &\text{OH} \\
\end{align*}
\]

$^1$H NMR (300 MHz, DMSO-$d_6$, 298 K, ppm) δ 9.37 (s, 2H), 7.36 (d, $J = 8.6$ Hz, 4H), 6.79 (d, $J = 8.1$ Hz, 4H); $^{13}$C NMR (75 MHz, DMSO-$d_6$, 298 K, ppm) δ 156.2, 131.1, 127.0, 115.5.

4-methoxyphenol

\[
\begin{align*}
\text{MeO} &\text{-} &\text{-} &\text{OH} \\
\end{align*}
\]

$^1$H NMR (300 MHz, DMSO-$d_6$, 298 K, ppm) δ 8.88 (s, 1H), 6.74 (d, $J = 8.8$ Hz, 2H), 6.67 (d, $J = 9.1$ Hz, 2H), 3.65 (s, 3H). $^{13}$C NMR (75 MHz, DMSO-$d_6$, 298 K, ppm) δ 152.1, 151.1, 115.7, 114.5, 55.3.

4-fluorophenol

\[
\begin{align*}
\text{F} &\text{-} &\text{-} &\text{OH} \\
\end{align*}
\]

$^1$H NMR (700 MHz, CDCl$_3$, 298 K, ppm) δ 6.93 (dd, $J = 8.0$, 7.5 Hz, 2H), 6.79-6.77 (m, 2H), 5.00 (s, 1H). $^{13}$C NMR (175 MHz, CDCl$_3$, 298 K, ppm) δ 157.3 (d, $J = 237.8$ Hz), 151.4, 116.3 (d, $J = 7.9$ Hz), 116.1 (d, $J = 22.7$ Hz). $^{19}$F-NMR (659 MHz, CDCl$_3$, 298 K, ppm): δ −124.1.

4-nitrophenol

\[
\begin{align*}
\text{O}_2\text{N} &\text{-} &\text{-} &\text{OH} \\
\end{align*}
\]

$^1$H NMR (300 MHz, DMSO-$d_6$, 298 K, ppm) δ 10.61 (s, 1H), 7.63 (d, $J = 8.5$ Hz, 2H), 6.90 (d, $J = 8.5$ Hz, 2H). $^{13}$C NMR (75 MHz, DMSO-$d_6$, 298 K, ppm) δ 163.3, 139.6, 126.1, 115.7.

Naphthalene-2-ol

\[
\begin{align*}
\text{OH} \\
\end{align*}
\]

$^1$H NMR (300 MHz, DMSO-$d_6$, 298 K, ppm) δ 9.72 (s, 1H), 7.77 (d, $J = 3.1$ Hz, 1H), 7.74 (d, $J = 3.7$ Hz, 1H), 7.67 (d, $J = 8.3$ Hz, 1H), 7.38 (t, $J = 7.5$ Hz, 1H), 7.25 (t, $J = 7.5$ Hz, 1H), 7.12 (d, $J = 2.2$ Hz, 1H), 7.08 (dd, $J = 8.7$, 2.4 Hz, 1H). $^{13}$C NMR (75 MHz, DMSO-$d_6$, 298 K, ppm) δ 155.2, 134.6, 129.3, 127.7, 127.5, 126.1, 125.9, 122.6, 118.6, 108.6.

General procedure for photocatalytic reductive dehalogenation of α-bromoacetophenone and photoredox borylation of diazonium salt to boronic ester.

α-Bromoacetophenone (0.50 mmol), N,N-diisopropylethylamine (DIEA) (0.55 mmol), DBOV-COF as photocatalyst (3.0 mg), Hantzsch ester (1.0 mmol), and CH$_3$CN (3.0 mL) were added to a 10-mL glass tube with a stirring bar. The mixture was stirred for 12 h at room temperature under N$_2$ and visible light irradiation with white LED lamp (0.07 W/cm$^2$). Subsequently, the DBOV-COF catalyst was isolated by centrifugation and washed with DCM for several times. The organic phases were combined, and dried under vacuum to yield the crude product, which was further purified by silica gel column chromatography to determine the isolated yield as shown in Scheme S3.

Scheme S3. Photocatalytic reductive dehalogenation of α-bromoacetophenone with DBOV-COF as photocatalyst.
Diazonium salt (0.30 mmol), bis(pinacolato)diboron (B$_2$pin$_2$) (0.30 mmol), DBOV-COF as photocatalyst (1 mg/mL), and CH$_3$CN (3.0 mL) were added to a 10-mL glass tube with a stirring bar. The mixture was stirred for 12 h at room temperature under Ar and visible light irradiation with white LED lamp (0.07 W/cm$^2$). Subsequently, the DBOV-COF catalyst was isolated by centrifugation and washed with DCM for several times. The organic phases were combined, and dried under vacuum to yield the crude product, which was further purified by silica gel column chromatography to determine the isolated yield as shown in Scheme S4.

NMR data are as follows.

Scheme S4. Photoredox borylation of diazonium salts with DBOV-COF as photocatalyst.

**Acetophenone**

![Acetophenone structure](image)

$^1$H NMR (300 MHz, CDCl$_3$, 298 K, ppm) δ 8.00 – 7.89 (m, 2H), 7.61 – 7.50 (m, 1H), 7.44 (dd, J = 8.2, 6.6 Hz, 2H), 2.58 (s, 3H). $^{13}$C NMR (75 MHz, CDCl$_3$, 298 K, ppm) δ 198.1, 137.1, 133.1, 128.6, 128.3, 26.6.

**2-(4-methoxyphenyl)-4,4,5,5-tetramethyl-1,3,2-dioxaborolane**

![2-(4-methoxyphenyl)-4,4,5,5-tetramethyl-1,3,2-dioxaborolane structure](image)

$^1$H NMR (250 MHz, CD$_3$CN, 298 K, ppm) δ 7.57 (d, J = 8.6 Hz, 2H), 6.84 (d, J = 8.7 Hz, 2H), 3.71 (s, 3H), 1.22 (s, 12H). $^{13}$C NMR (75 MHz, CD$_3$CN, 298 K, ppm) δ 162.0, 135.9, 113.1, 83.2, 54.5, 23.9.
Results and Discussion

Figure S1. PXRD pattern of purified DBOV-COF before (black curve) and after (red curve) washing with n-hexylamine in chlorobenzene.

Figure S2. FTIR spectra of DBOV-CHO, DCTMP and DBOV-COF.

Figure S3. Solid-state NMR spectra of DCTMP (black), DBOV-CHO (blue), and DBOV-COF (red). Compared to the monomers of DCTMP and DBOV-CHO, the NMR signals of the DBOV-COF are significantly broadened. This broadening may originate from stacking imperfections of the 2D DBOV-COF layers in the bulk sample.
Figure S4. SEM images of DBOV-COF.

Figure S5. TGA analysis of DBOV-COF.
Figure S6. TEM images of DBOV-COF. a) TEM image of exfoliated sheets of DBOV-COF. b) TEM (left), a simulated image of DBOV-COF in ABC-stacking mode (right), and overlapped image (middle), showing good agreement between the experiment and simulation. c) Simulated images of DBOV-COF in AA- (left) and AB- (right) stacking mode.

Figure S7. CV profiles of DBOV-COF.
Figure S8. Band structure and PDOS of DBOV-COF. Electronic band structures (left panel) and projected density of states (PDOS) (right panel) of a) monolayer and b) multilayers of DBOV-COF.

Figure S9. A proposed mechanism of photocatalytic hydroxylation reaction with DBOV-COF as photocatalyst.
Figure S10. EPR spectra of DBOV-COF as a photocatalyst and 5,5-dimethyl-1-pyrroline-N-oxide (DMPO) as a superoxide radical trapping agent in acetonitrile in darkness (black curve) and under white light irradiation (blue curve), indicating the generation of DMPO−O₂⁻ adduct.

Figure S11. Recycling times and yields of DBOV-COF for photocatalytic oxidation from 2-naphthylboronic acid to 2-naphthol.

Figure S12. Chemical stability of DBOV-COF for photocatalytic process from 2-naphthylboronic acid to 2-naphthol (a) PXRD patterns before (black curve) and after (red curve) photocatalysis, (b) BET surface areas before (black curve) and after 8 cycles (red curve).
Figure S13. Time-dependent conversion plot for photocatalytic hydroxylation of 2-naphthylboronic acid to 2-naphthol.

Figure S14. Theoretical calculations of (a) VBM and (b) CBM of DBOV-COF by DFTB+/mio-0-1.

Figure S15. UV-vis absorption and fluorescence spectra of 10^{-6} M solutions DBOV-CHO in THF measured at room temperature.
Figure S16. UV-vis absorption spectra of DBOV-CHO by TD-DFT method.
Figure S17. $^1$H NMR spectrum of DBOV-CHO measured in o-DCB-d$_4$ (500 MHz, 413 K).

Figure S18. $^1$H NMR spectrum of 4,4'-(pyrene-2,7-diyl)bis(3,5-dimethylbenzaldehyde) measured in CD$_2$Cl$_2$ (300 MHz, 298 K).
Figure S19. $^{13}$C NMR spectrum of 4,4'-(pyrene-2,7-diyl)bis(3,5-dimethylbenzaldehyde) measured in CD$_2$Cl$_2$ (75 MHz, 298 K).

Figure S20. $^1$H NMR spectrum of pyren-1-ol measured in DMSO-d$_6$ (300 MHz, 298 K).
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Figure S21. $^{13}$C NMR spectrum of pyren-1-ol measured in DMSO-d$_6$ (75 MHz, 298 K).

Figure S22. $^1$H NMR spectrum of 4-hydroxybenzonitrile measured in DMSO-d$_6$ (300 MHz, 298 K).
Figure S23. $^{13}$C NMR spectrum of 4-hydroxybenzonitrile measured in DMSO-d$_6$ (75 MHz, 298 K).

Figure S24. $^1$H NMR spectrum of [1,1'-biphenyl]-4-ol measured in DMSO-d$_6$ (300 MHz, 298 K).
Figure S25. $^{13}$C NMR spectrum of [1,1'-biphenyl]-4-ol measured in DMSO-$d_6$ (75 MHz, 298 K).

Figure S26. $^1$H NMR spectrum of [1,1'-biphenyl]-4,4'-diol measured in DMSO-$d_6$ (300 MHz, 298 K).
Figure S27. $^{13}$C NMR spectrum of 1,1'-biphenyl]-4,4'-diol measured in DMSO-$d_6$ (75 MHz, 298 K).

Figure S28. $^1$H NMR spectrum of 4-methoxyphenol measured in DMSO-$d_6$ (300 MHz, 298 K).
Figure S29. $^{13}$C NMR spectrum of 4-methoxyphenol measured in DMSO-d$_6$ (75 MHz, 298 K).

Figure S30. $^1$H NMR spectrum of 4-fluorophenol measured in CDCl$_3$ (700 MHz, 298 K).
Figure S31. $^{13}$C NMR spectrum of 4-fluorophenol measured in CDCl$_3$ (175 MHz, 298 K).

Figure S32. $^{19}$F NMR spectrum of 4-fluorophenol measured in CDCl$_3$ (659 MHz, 298 K).
Figure S33. $^1$H NMR spectrum of 4-nitrophenol measured in DMSO-$d_6$ (300 MHz, 298 K).

Figure S34. $^{13}$C NMR spectrum of 4-nitrophenol measured in DMSO-$d_6$ (75 MHz, 298 K).
Figure S35. $^1$H NMR spectrum of naphthalen-2-ol measured in DMSO-$d_6$ (300 MHz, 298 K).

Figure S36. $^{13}$C NMR spectrum of naphthalen-2-ol measured in DMSO-$d_6$ (75 MHz, 298 K).
Figure S37. $^1$H NMR spectrum of acetophenone measured in CDCl$_3$ (300 MHz, 298 K).

Figure S38. $^{13}$C NMR spectrum of acetophenone measured in CDCl$_3$ (75 MHz, 298 K).
**Figure S39.** $^1$H NMR spectrum of 2-(4-methoxyphenyl)-4,4,5,5-tetramethyl-1,3,2-dioxaborolane measured in CD$_3$CN (250 MHz, 298 K).

**Figure S40.** $^{13}$C NMR spectrum of 2-(4-methoxyphenyl)-4,4,5,5-tetramethyl-1,3,2-dioxaborolane measured in CD$_3$CN (75 MHz, 298 K).
## Table S2.
Summary of photocatalytic hydroxylation performance with different porous materials as photocatalysts.

| Substrates               | Loading amount (mg) for 1 mmol substrate | Light source                          | Reaction time (h) | Yield (%) | Toc (s⁻¹) |
|--------------------------|-----------------------------------------|---------------------------------------|-------------------|-----------|-----------|
| **this work**            |                                         |                                       |                   |           |           |
| 2-Naphthylboronic acid   | 6                                       | LED lamp (0.5 W)                      | 5                 | 97        | 1.6 × 10⁻² s⁻¹ |
| 4-Cyanophenylboronic acid| 6                                       | LED lamp (0.5 W)                      | 5                 | 89        |           |
| 4-Methoxyphenylboronic acid| 6                                   | LED lamp (0.5 W)                      | 5                 | 96        |           |
| 4-Biphenylboronic acid   | 6                                       | LED lamp (0.5 W)                      | 5                 | 98        |           |
| 1-Pyrenylboronic acid    | 6                                       | LED lamp (0.5 W)                      | 5                 | 97        |           |
| **COF-p-3Ph**            |                                         |                                       |                   |           |           |
| 2-Naphthylboronic acid   | 5                                       | Xenon lamp (300 W)                    | 4                 | 99        | 1.5 × 10⁻² s⁻¹ |
| 4-Cyanophenylboronic acid| 5                                       | Xenon lamp (300 W)                    | 4                 | 99        |           |
| 4-Biphenylboronic acid   | 5                                       | Xenon lamp (300 W)                    | 4                 | 96        |           |
| 4-Nitrophenylboronic acid| 5                                       | Xenon lamp (300 W)                    | 4                 | 99        |           |
| **LZU-190**              |                                         |                                       |                   |           |           |
| 2-Naphthylboronic acid   | 106                                     | LED lamp (20 W)                       | 96                | 81        | 3 × 10⁻³ s⁻¹ |
| 4-Cyanophenylboronic acid| 106                                     | LED lamp (20 W)                       | 48                | 98        |           |
| 4-Methoxyphenylboronic acid| 106                                 | LED lamp (20 W)                       | 96                | 58        |           |
| 4-Nitrophenylboronic acid| 106                                     | LED lamp (20 W)                       | 30                | 99        |           |
| 1-Pyrenylboronic acid    | 106                                     | LED lamp (20 W)                       | 96                | 55        |           |
| **PCP-MF**               |                                         |                                       |                   |           |           |
| 2-Naphthylboronic acid   | 20                                      | LED lamp (1.2 W/cm²)                  | 20                | 83        |           |
| 4-Cyanophenylboronic acid| 20                                      | LED lamp (1.2 W/cm²)                  | 20                | 96        |           |
| 4-Methoxyphenylboronic acid| 20                                    | LED lamp (1.2 W/cm²)                  | 24                | 93        |           |
Table S3. Atomistic coordinates for the ABC-stacking mode of DBOV-COF optimized by using DFTB+ method. Space group: P1: \(a = 48.1779 \text{ Å}, b = 48.6991 \text{ Å}, c = 6.85233 \text{ Å}, \alpha = 90.0000^\circ, \beta = 90.0000^\circ, \) and \( \gamma = 120.0040^\circ. \)

|        |        |        |        |
|--------|--------|--------|--------|
| C1     | 0.47847| 0.26905| 0.87033|
| C2     | 0.49538| 0.29036| 0.71731|
| C3     | 0.52876| 0.30488| 0.70911|
| C4     | 0.54592| 0.29812| 0.8488 |
| C5     | 0.52893| 0.27731| 0.0028 |
| C6     | 0.49558| 0.26292| 0.01485|
| C7     | 0.5008 | 0.31366| 0.83332|
| C8     | 0.59955| 0.30402| 0.92241|
| C9     | 0.65284| 0.35497| 0.91396|
| C10    | 0.68671| 0.37073| 0.91609|
| C11    | 0.03061| 0.02121| 0.08321|
| N1     | 0.01074| 0.03337| 0.07547|
| C12    | 0.06535| 0.04274| 0.08726|
| C13    | 0.08083| 0.07242| 0.01228|
| C14    | 0.11579| 0.09278| 0.01829|
| C15    | 0.13405| 0.08948| 0.16723|
| C16    | 0.16738| 0.10874| 0.1726 |
| C17    | 0.18331| 0.1316 | 0.02522|
| C18    | 0.16524| 0.13497| 0.87455|
| C19    | 0.13182| 0.11607| 0.87444|
| C20    | 0.21871| 0.187  | 0.27792|
| C21    | 0.23585| 0.1781 | 0.14831|
| C22    | 0.27021| 0.19665| 0.14456|
| C23    | 0.28661| 0.22331| 0.27273|
| C24    | 0.26837| 0.2311 | 0.39641|
| C25    | 0.23477| 0.21317| 0.39801|
| C26    | 0.28776| 0.18852| 0.01168|
| C27    | 0.27115| 0.16208| 0.88549|
| C28    | 0.23679| 0.14309| 0.89434|
| C29    | 0.21934| 0.15123| 0.02295|
| C30    | 0.22091| 0.11556| 0.77063|
| C31    | 0.23766| 0.10828| 0.64044|
| C32    | 0.27179| 0.12777| 0.62201|
| C33    | 0.28586| 0.15429| 0.74877|
| C34    | 0.32168| 0.24161| 0.26951|
| C35    | 0.3389 | 0.23327| 0.13544|
| C36    | 0.32218| 0.20694| 0.0049 |
| C37    | 0.33946| 0.19898| 0.87113|
| C38    | 0.32273| 0.17277| 0.73982|
|   | C39    | C40    | C41    | C42    | C43    | C44    | C45    | C46    | C47    | C48    | C49    | C50    | C51    | C52    | C53    | C54    | C55    | C56    | C57    | C58    | C59    | C60    | C61    | H1     | H2     | H3     | H4     | C62    | H5     | H6     | H7     | H8     | H9     | H10    | H11    | H12    | H13    | H14    | H15    | H16    | H17    | H18    | H19    | H20    | H21    | H22    | H23    |
|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|   | 0.33985| 0.32228| 0.28917| 0.37317| 0.39005| 0.3725 | 0.33929| 0.39061| 0.3739 | 0.39137| 0.37486| 0.42446| 0.44117| 0.4251 | 0.44241| 0.42573| 0.39289| 0.42644| 0.44273| 0.18196| 0.18624| 0.47795| 0.4774 | 0.54164| 0.54179| 0.59187| 0.58852| 0.63757| 0.96877| 0.06706| 0.12219| 0.11814| 0.19273| 0.28007| 0.22134| 0.19508| 0.22533| 0.33477| 0.27634| 0.38532| 0.32676| 0.43708| 0.46722| 0.38103| 0.43966| 0.46874| 0.19944| 0.16478| 0.13928| 0.25116| 0.27744| 0.28508| 0.26754| 0.24274| 0.21687| 0.2083 | 0.18244| 0.29535| 0.287   | 0.19227 | 0.21545| 0.15814| 0.10409| 0.24007| 0.29678| 0.32115| 0.27246| 0.33413| 0.28182| 0.37394| 0.05132| 0.08146| 0.07204| 0.11876| 0.17283| 0.25131| 0.21987| 0.10051| 0.08736| 0.13329| 0.10134| 0.30495| 0.27417| 0.31565| 0.30039| 0.15457| 0.18275| 0.22777| 0.18142| 0.60301| 0.4735 | 0.48298| 0.13039| 0.2589 | 0.39102| 0.39616| 0.99762| 0.86751| 0.73679| 0.60338| 0.25131| 0.12738| 0.99703| 0.87155| 0.74157| 0.48174| 0.49117| 0.61788| 0.71168| 0.3304 | 0.17745| 0.56172| 0.59034| 0.11569| 0.7363 | 0.00355| 0.91196| 0.151  | 0.75743| 0.28171| 0.49407| 0.49561| 0.78303| 0.54845| 0.36455| 0.38314| 0.49036| 0.50114| 0.34802| 0.12511| 0.37966| 0.39789| 0.62438| 0.76769|
|   |   |   |   |
|---|---|---|---|
| H24 | 0.19516 | 0.15025 | 0.61992 |
| H25 | 0.16494 | 0.16051 | 0.61902 |
| H26 | 0.17074 | 0.08984 | 0.38926 |
| H27 | 0.19841 | 0.09201 | 0.27268 |
| H28 | 0.20472 | 0.12667 | 0.38926 |
| H29 | 0.4648  | 0.21583 | 0.12228 |
| H30 | 0.49443 | 0.24115 | 0.28956 |
| H31 | 0.4604  | 0.24497 | 0.24481 |
| H32 | 0.46029 | 0.30266 | 0.62529 |
| H33 | 0.49366 | 0.31606 | 0.46673 |
| H34 | 0.4636  | 0.27581 | 0.47119 |
| N2  | 0.76319 | 0.37655 | 0.92199 |
| C63 | 0.14616 | 0.60179 | 0.2077 |
| C64 | 0.16291 | 0.62312 | 0.05448 |
| C65 | 0.19628 | 0.63776 | 0.04534 |
| C66 | 0.21362 | 0.63117 | 0.18456 |
| C67 | 0.19679 | 0.61024 | 0.33846 |
| C68 | 0.16343 | 0.5957  | 0.35136 |
| C69 | 0.24853 | 0.64713 | 0.16911 |
| C70 | 0.26761 | 0.63804 | 0.25966 |
| C71 | 0.32082 | 0.68924 | 0.24724 |
| C72 | 0.35471 | 0.70507 | 0.24836 |
| C73 | 0.69834 | 0.35555 | 0.41707 |
| N3  | 0.67851 | 0.36777 | 0.41076 |
| C74 | 0.73008 | 0.37705 | 0.42209 |
| C75 | 0.74857 | 0.40689 | 0.34951 |
| C76 | 0.78354 | 0.42724 | 0.35629 |
| C77 | 0.8017  | 0.42374 | 0.50508 |
| C78 | 0.83503 | 0.4429  | 0.51083 |
| C79 | 0.85107 | 0.46583 | 0.36399 |
| C80 | 0.83309 | 0.46944 | 0.21373 |
| C81 | 0.79966 | 0.45066 | 0.21326 |
| C82 | 0.88676 | 0.52109 | 0.61729 |
| C83 | 0.90377 | 0.51205 | 0.48756 |
| C84 | 0.93814 | 0.53039 | 0.48396 |
| C85 | 0.95469 | 0.55701 | 0.61227 |
| C86 | 0.93658 | 0.56493 | 0.73619 |
| C87 | 0.90297 | 0.54719 | 0.7377 |
| C88 | 0.95556 | 0.5221  | 0.35103 |
| C89 | 0.93881 | 0.4957  | 0.2247 |
| C90 | 0.90444 | 0.47694 | 0.23334 |
| C91 | 0.88711 | 0.48524 | 0.36193 |
| C92 | 0.88841 | 0.44945 | 0.10942 |
| C93 | 0.90504 | 0.44199 | 0.9794 |
| C94 | 0.9392  | 0.46128 | 0.96112 |
| C95 | 0.9561  | 0.48776 | 0.08796 |
| C96 | 0.98977 | 0.57514 | 0.60883 |
|   | C97  | 0.00685 | 0.56664 | 0.47473 |
|---|------|---------|---------|---------|
|   | C98  | 0.98999 | 0.54033 | 0.34428 |
|   | C99  | 0.00715 | 0.53223 | 0.21039 |
|   | C100 | 0.99029 | 0.50606 | 0.07898 |
|   | C101 | 0.00727 | 0.49796 | 0.94192 |
|   | C102 | 0.98958 | 0.47248 | 0.81247 |
|   | C103 | 0.95646 | 0.45448 | 0.82208 |
|   | C104 | 0.04113 | 0.58438 | 0.46943 |
|   | C105 | 0.05814 | 0.61071 | 0.59744 |
|   | C106 | 0.04072 | 0.61852 | 0.72952 |
|   | C107 | 0.0075  | 0.6011  | 0.73511 |
|   | C108 | 0.05844 | 0.57579 | 0.33671 |
|   | C109 | 0.0416  | 0.54995 | 0.20666 |
|   | C110 | 0.05893 | 0.54127 | 0.07951 |
|   | C111 | 0.04229 | 0.51549 | 0.94182 |
|   | C112 | 0.09255 | 0.62849 | 0.58938 |
|   | C113 | 0.10915 | 0.61995 | 0.46576 |
|   | C114 | 0.09294 | 0.59328 | 0.33584 |
|   | C115 | 0.11011 | 0.58438 | 0.21005 |
|   | C116 | 0.09329 | 0.55822 | 0.07984 |
|   | C117 | 0.06019 | 0.50716 | 0.81918 |
|   | C118 | 0.09375 | 0.52321 | 0.82789 |
|   | C119 | 0.11016 | 0.54829 | 0.9551  |
|   | C120 | 0.84994 | 0.49274 | 0.05166 |
|   | C121 | 0.85383 | 0.43816 | 0.66862 |
|   | C122 | 0.14595 | 0.5729  | 0.51439 |
|   | C123 | 0.14475 | 0.62951 | 0.90003 |
|   | H35  | 0.20902 | 0.65407 | 0.92653 |
|   | H36  | 0.20982 | 0.60549 | 0.45073 |
|   | H37  | 0.25933 | 0.66751 | 0.07137 |
|   | H38  | 0.25683 | 0.61593 | 0.34179 |
|   | C124 | 0.30539 | 0.70805 | 0.2429  |
|   | H39  | 0.63654 | 0.38567 | 0.48866 |
|   | H40  | 0.73482 | 0.41605 | 0.27557 |
|   | H41  | 0.78974 | 0.40623 | 0.61967 |
|   | H42  | 0.78605 | 0.45351 | 0.09648 |
|   | H43  | 0.86077 | 0.50709 | 0.62087 |
|   | H44  | 0.94339 | 0.5851  | 0.83406 |
|   | H45  | 0.88964 | 0.554   | 0.63542 |
|   | H46  | 0.86254 | 0.43456 | 0.12154 |
|   | H47  | 0.8926  | 0.4211  | 0.8873  |
|   | H48  | 0.00196 | 0.46638 | 0.70345 |
|   | H49  | 0.94352 | 0.43472 | 0.72226 |
|   | H50  | 0.05365 | 0.63843 | 0.82843 |
|   | H51  | 0.99508 | 0.60785 | 0.84004 |
|   | H52  | 0.10526 | 0.64886 | 0.68555 |
|   | H53  | 0.13519 | 0.63324 | 0.46327 |
| H54 | 0.04824 | 0.48767 | 0.7167 |
| H55 | 0.10687 | 0.5157  | 0.73366 |
| H56 | 0.13617 | 0.56054 | 0.96107 |
| H57 | 0.8673  | 0.516   | 0.10855 |
| H58 | 0.86328 | 0.48499 | 0.96028 |
| H59 | 0.83298 | 0.49514 | 0.95849 |
| H60 | 0.83818 | 0.42304 | 0.784  |
| H61 | 0.8669  | 0.4271  | 0.60948 |
| H62 | 0.87158 | 0.46068 | 0.73229 |
| H63 | 0.13168 | 0.5488  | 0.45847 |
| H64 | 0.16259 | 0.57312 | 0.62224 |
| H65 | 0.12939 | 0.57863 | 0.58737 |
| H66 | 0.12789 | 0.63563 | 0.96474 |
| H67 | 0.16092 | 0.64863 | 0.80377 |
| H68 | 0.13065 | 0.60845 | 0.81071 |
| N4  | 0.43122 | 0.71079 | 0.25579 |
| C125 | 0.81098 | 0.93466 | 0.53968 |
| C126 | 0.82783 | 0.95595 | 0.38651 |
| C127 | 0.86119 | 0.97032 | 0.37725 |
| C128 | 0.87837 | 0.96343 | 0.51608 |
| C129 | 0.86144 | 0.94265 | 0.67037 |
| C130 | 0.82811 | 0.92841 | 0.68343 |
| C131 | 0.91323 | 0.97888 | 0.49955 |
| C132 | 0.93204 | 0.96935 | 0.58903 |
| C133 | 0.98525 | 0.02036 | 0.57863 |
| C134 | 0.01912 | 0.03618 | 0.58085 |
| C135 | 0.36338 | 0.68629 | 0.75406 |
| N5  | 0.34356 | 0.69849 | 0.74665 |
| C136 | 0.3981  | 0.70781 | 0.76011 |
| C137 | 0.41356 | 0.73754 | 0.686  |
| C138 | 0.44848 | 0.75803 | 0.69339 |
| C139 | 0.46771 | 0.75455 | 0.84185 |
| C140 | 0.5      | 0.77392 | 0.84816 |
| C141 | 0.51594 | 0.79708 | 0.70239 |
| C142 | 0.49789 | 0.80071 | 0.55269 |
| C143 | 0.46449 | 0.78166 | 0.55139 |
| C144 | 0.5515  | 0.85217 | 0.95778 |
| C145 | 0.56855 | 0.84339 | 0.82665 |
| C146 | 0.60291 | 0.86193 | 0.82214 |
| C147 | 0.61941 | 0.88851 | 0.95077 |
| C148 | 0.60126 | 0.89618 | 0.07601 |
| C149 | 0.56766 | 0.87824 | 0.07851 |
| C150 | 0.62037 | 0.85388 | 0.68798 |
| C151 | 0.60369 | 0.82748 | 0.56156 |
| C152 | 0.56933 | 0.80854 | 0.57094 |
| C153 | 0.55196 | 0.81666 | 0.7004  |
| C154 | 0.55337 | 0.78103 | 0.44708 |
|    |    |    |    |
|---|---|---|---|
| C155 | 0.57005 | 0.77371 | 0.31661 |
| C156 | 0.60416 | 0.79321 | 0.29731 |
| C157 | 0.62101 | 0.81973 | 0.42393 |
| C158 | 0.65448 | 0.90689 | 0.94614 |
| C159 | 0.6716 | 0.89865 | 0.81065 |
| C160 | 0.65479 | 0.87234 | 0.68013 |
| C161 | 0.67198 | 0.86466 | 0.54516 |
| C162 | 0.65517 | 0.83825 | 0.41391 |
| C163 | 0.67218 | 0.83032 | 0.27604 |
| C164 | 0.65454 | 0.80481 | 0.14677 |
| C165 | 0.62144 | 0.78659 | 0.1574 |
| C166 | 0.70586 | 0.91665 | 0.80408 |
| C167 | 0.72282 | 0.94297 | 0.93222 |
| C168 | 0.70537 | 0.9505 | 0.06573 |
| C169 | 0.67217 | 0.93284 | 0.07255 |
| C170 | 0.72321 | 0.9083 | 0.67011 |
| C171 | 0.70641 | 0.88242 | 0.54026 |
| C172 | 0.72379 | 0.8739 | 0.40839 |
| C173 | 0.7072 | 0.84804 | 0.2751 |
| C174 | 0.75721 | 0.961 | 0.92286 |
| C175 | 0.77385 | 0.9527 | 0.79603 |
| C176 | 0.7577 | 0.92601 | 0.66818 |
| C177 | 0.77492 | 0.91725 | 0.54181 |
| C178 | 0.75815 | 0.89103 | 0.41195 |
| C179 | 0.72515 | 0.83981 | 0.15227 |
| C180 | 0.75871 | 0.856 | 0.16044 |
| C181 | 0.77507 | 0.88118 | 0.28708 |
| C182 | 0.51465 | 0.82437 | 0.3923 |
| C183 | 0.51892 | 0.76931 | 0.00565 |
| C184 | 0.81048 | 0.90568 | 0.8465 |
| C185 | 0.80979 | 0.96249 | 0.232 |
| H69 | 0.87404 | 0.98657 | 0.25832 |
| H70 | 0.87432 | 0.93769 | 0.78258 |
| H71 | 0.92423 | 0.99923 | 0.40162 |
| H72 | 0.92107 | 0.94724 | 0.67114 |
| C186 | 0.96994 | 0.03929 | 0.57522 |
| H73 | 0.30211 | 0.71686 | 0.81951 |
| H74 | 0.39979 | 0.74652 | 0.61037 |
| H75 | 0.45486 | 0.73689 | 0.95588 |
| H76 | 0.45081 | 0.78453 | 0.43502 |
| H77 | 0.52552 | 0.83802 | 0.96206 |
| H78 | 0.61302 | 0.91632 | 0.17415 |
| H79 | 0.55431 | 0.88488 | 0.17718 |
| H80 | 0.52753 | 0.766 | 0.4598 |
| H81 | 0.55767 | 0.75277 | 0.22481 |
| H82 | 0.66694 | 0.79885 | 0.03708 |
| H83 | 0.60854 | 0.7668 | 0.0577 |
|   | H84  | 0.71825 | 0.9704   | 0.1648  |
|---|------|---------|----------|--------|
|   | H85  | 0.65972 | 0.93939  | 0.17858 |
|   | H86  | 0.76988 | 0.98138  | 0.01904 |
|   | H87  | 0.79989 | 0.96618  | 0.79455 |
|   | H88  | 0.71322 | 0.82025  | 0.05021 |
|   | H89  | 0.77187 | 0.84854  | 0.06625 |
|   | H90  | 0.80109 | 0.89354  | 0.2926  |
|   | H91  | 0.53179 | 0.84757  | 0.45098 |
|   | H92  | 0.52824 | 0.81701  | 0.30015 |
|   | H93  | 0.49762 | 0.82672  | 0.29957 |
|   | H94  | 0.50323 | 0.75283  | 0.116   |
|   | H95  | 0.53447 | 0.79169  | 0.07635 |
|   | H96  | 0.53530 | 0.79169  | 0.07635 |
|   | H97  | 0.79596 | 0.88161  | 0.79053 |
|   | H98  | 0.82705 | 0.90567  | 0.95408 |
|   | H99  | 0.79414 | 0.91167  | 0.91866 |
|   | H100 | 0.79306 | 0.96878  | 0.29665 |
|   | H101 | 0.82604 | 0.98154  | 0.13562 |
|   | H102 | 0.79558 | 0.94145  | 0.1428  |
|   | N6   | 0.7957  | 0.79169  | 0.07635 |
|   | C187 | 0.73049 | 0.2132   | 0.90159 |
|   | C188 | 0.70812 | 0.20783  | 0.75246 |
|   | C189 | 0.69245 | 0.22545  | 0.7417  |
|   | C190 | 0.69951 | 0.24946  | 0.88599 |
|   | C191 | 0.72189 | 0.25469  | 0.03418 |
|   | C192 | 0.73703 | 0.23661  | 0.04419 |
|   | C193 | 0.68363 | 0.26841  | 0.87426 |
|   | C194 | 0.69718 | 0.29876  | 0.93696 |
|   | N7   | 0.64943 | 0.30366  | 0.92319 |
|   | C195 | 0.63477 | 0.32125  | 0.91554 |
|   | C196 | 0.9785  | 0.01361  | 0.07475 |
|   | C197 | 0.96498 | 0.98012  | 0.08461 |
|   | C198 | 0.95839 | 0.02848  | 0.07718 |
|   | C199 | 0.92918 | 0.01632  | 0.99269 |
|   | C200 | 0.90841 | 0.0322   | 0.00435 |
|   | C201 | 0.91137 | 0.05106  | 0.15565 |
|   | C202 | 0.89132 | 0.06411  | 0.16374 |
|   | C203 | 0.86785 | 0.05663  | 0.01815 |
|   | C204 | 0.86437 | 0.03536  | 0.8674  |
|   | C205 | 0.88428 | 0.02213  | 0.86338 |
|   | C206 | 0.81177 | 0.0356   | 0.27147 |
|   | C207 | 0.82096 | 0.06195  | 0.14579 |
|   | C208 | 0.80265 | 0.07785  | 0.14803 |
|   | C209 | 0.77613 | 0.06756  | 0.27956 |
|   | C210 | 0.7581  | 0.04129  | 0.39962 |
|   | C211 | 0.78564 | 0.02539  | 0.39421 |
|   | C212 | 0.81086 | 0.10366  | 0.01777 |
|   |   |   |   |
|---|---|---|---|
| C213 | 0.83709 | 0.11344 | 0.88767 |
| C214 | 0.85592 | 0.09803 | 0.89097 |
| C215 | 0.84784 | 0.13365 | 0.63470 |
| C216 | 0.84487 | 0.13872 | 0.75317 |
| C217 | 0.88326 | 0.08452 | 0.28314 |
| C218 | 0.79269 | 0.11977 | 0.01713 |
| C219 | 0.80066 | 0.14508 | 0.88555 |
| C220 | 0.82664 | 0.15455 | 0.75044 |
| C221 | 0.83467 | 0.17976 | 0.61608 |
| C222 | 0.75819 | 0.08452 | 0.28348 |
| C223 | 0.76659 | 0.11019 | 0.15150 |
| C224 | 0.79269 | 0.11977 | 0.01713 |
| C225 | 0.80066 | 0.14508 | 0.88555 |
| C226 | 0.82664 | 0.15455 | 0.75044 |
| C227 | 0.83467 | 0.17976 | 0.61608 |
| C228 | 0.84784 | 0.13365 | 0.63470 |
| C229 | 0.84487 | 0.13872 | 0.75317 |
| C230 | 0.88326 | 0.08452 | 0.28314 |
| C231 | 0.79269 | 0.11977 | 0.01713 |
| C232 | 0.80066 | 0.14508 | 0.88555 |
| C233 | 0.82664 | 0.15455 | 0.75044 |
| C234 | 0.83467 | 0.17976 | 0.61608 |
| C235 | 0.84784 | 0.13365 | 0.63470 |
| C236 | 0.84487 | 0.13872 | 0.75317 |
| C237 | 0.88326 | 0.08452 | 0.28314 |
| C238 | 0.79269 | 0.11977 | 0.01713 |
| C239 | 0.80066 | 0.14508 | 0.88555 |
| C240 | 0.82664 | 0.15455 | 0.75044 |
| C241 | 0.83467 | 0.17976 | 0.61608 |
| C242 | 0.84784 | 0.13365 | 0.63470 |
| C243 | 0.84487 | 0.13872 | 0.75317 |
| C244 | 0.88326 | 0.08452 | 0.28314 |
| C245 | 0.79269 | 0.11977 | 0.01713 |
| C246 | 0.80066 | 0.14508 | 0.88555 |
| C247 | 0.82664 | 0.15455 | 0.75044 |
| H103 | 0.67535 | 0.22122 | 0.63237 |
| H104 | 0.72719 | 0.27268 | 0.14491 |
| H105 | 0.70186 | 0.18379 | 0.59622 |
| H106 | 0.67535 | 0.22122 | 0.63237 |
| H107 | 0.72719 | 0.27268 | 0.14491 |
| H108 | 0.66018 | 0.25763 | 0.80399 |
| H109 | 0.72719 | 0.31044 | 0.99298 |
| H110 | 0.93084 | 0.95892 | 0.86837 |
| H111 | 0.94876 | 0.92016 | 0.19284 |
| H112 | 0.9203 | 0.9952 | 0.90198 |
| H113 | 0.9203 | 0.9952 | 0.90198 |
|    |    |    |    |
|----|----|----|----|
| H114 | 0.8982 | 0.09877 | 0.77094 |
| H115 | 0.91121 | 0.14216 | 0.53938 |
| H116 | 0.86586 | 0.20822 | 0.37518 |
| H117 | 0.89737 | 0.17947 | 0.38283 |
| H118 | 0.6956 | 0.08504 | 0.51739 |
| H119 | 0.72591 | 0.05704 | 0.5174 |
| H120 | 0.68517 | 0.12628 | 0.3836 |
| H121 | 0.70035 | 0.17163 | 0.16335 |
| H122 | 0.84536 | 0.23157 | 0.40041 |
| H123 | 0.8175 | 0.26191 | 0.42754 |
| H124 | 0.77229 | 0.24544 | 0.65684 |
| H125 | 0.81645 | 0.02083 | 0.77085 |
| H126 | 0.84656 | 0.04828 | 0.61724 |
| H127 | 0.83773 | 0.00856 | 0.61658 |
| H128 | 0.9123 | 0.081 | 0.43312 |
| H129 | 0.90452 | 0.11077 | 0.26402 |
| H130 | 0.87278 | 0.08036 | 0.39434 |
| H131 | 0.78437 | 0.24974 | 0.14194 |
| H132 | 0.76304 | 0.26103 | 0.30186 |
| H133 | 0.75376 | 0.22114 | 0.28812 |
| H134 | 0.69632 | 0.16104 | 0.65896 |
| H135 | 0.68222 | 0.18034 | 0.50179 |
| H136 | 0.72309 | 0.1915 | 0.50527 |
| N8  | 0.62632 | 0.39008 | 0.90806 |
| N9  | 0.90358 | 0.94105 | 0.08525 |
| C249 | 0.39719 | 0.54662 | 0.24618 |
| C250 | 0.37489 | 0.54141 | 0.09685 |
| C251 | 0.35949 | 0.55928 | 0.09209 |
| C252 | 0.36675 | 0.58335 | 0.2299 |
| C253 | 0.38995 | 0.58833 | 0.37867 |
| C254 | 0.40384 | 0.57003 | 0.38892 |
| C255 | 0.3513 | 0.60267 | 0.2173 |
| C256 | 0.36515 | 0.63309 | 0.27905 |
| N10 | 0.31755 | 0.63803 | 0.26335 |
| C257 | 0.30282 | 0.65552 | 0.2525 |
| C258 | 0.64628 | 0.34806 | 0.4094 |
| C259 | 0.6327 | 0.31455 | 0.41757 |
| C260 | 0.62621 | 0.36297 | 0.41325 |
| C261 | 0.59705 | 0.35095 | 0.32822 |
| C262 | 0.57618 | 0.36472 | 0.34145 |
| C263 | 0.57908 | 0.38538 | 0.49376 |
| C264 | 0.55888 | 0.38825 | 0.50344 |
| C265 | 0.5353 | 0.39075 | 0.35848 |
| C266 | 0.5319 | 0.36965 | 0.20675 |
| C267 | 0.55197 | 0.35661 | 0.20109 |
| C268 | 0.47923 | 0.36948 | 0.61289 |
| C269 | 0.48832 | 0.39584 | 0.4875 |
|   |            |            |            |
|---|------------|------------|------------|
| C270 | 0.46992 | 0.41165 | 0.4902 |
| C271 | 0.44343 | 0.40127 | 0.62201 |
| C272 | 0.43548 | 0.37499 | 0.74168 |
| C273 | 0.45309 | 0.35916 | 0.7357 |
| C274 | 0.47801 | 0.43744 | 0.36001 |
| C275 | 0.50418 | 0.44728 | 0.22942 |
| C276 | 0.52311 | 0.40646 | 0.35953 |
| C277 | 0.51518 | 0.40646 | 0.35953 |
| C278 | 0.55037 | 0.44361 | 0.10388 |
| C279 | 0.55741 | 0.46756 | 0.97508 |
| C280 | 0.53802 | 0.48225 | 0.96339 |
| C281 | 0.51181 | 0.47252 | 0.09482 |
| C282 | 0.42542 | 0.41817 | 0.6262 |
| C283 | 0.43369 | 0.44382 | 0.49465 |
| C284 | 0.45974 | 0.45346 | 0.35982 |
| C285 | 0.46758 | 0.47874 | 0.22828 |
| C286 | 0.49351 | 0.48827 | 0.09268 |
| C287 | 0.50143 | 0.51347 | 0.95844 |
| C288 | 0.52955 | 0.52139 | 0.82408 |
| C289 | 0.5445  | 0.50633 | 0.82663 |
| C290 | 0.41599 | 0.46023 | 0.49626 |
| C291 | 0.39001 | 0.45081 | 0.62933 |
| C292 | 0.3825  | 0.4256  | 0.75922 |
| C293 | 0.39981 | 0.40984 | 0.75759 |
| C294 | 0.42425 | 0.48607 | 0.36531 |
| C295 | 0.44982 | 0.49526 | 0.2309 |
| C296 | 0.45831 | 0.52133 | 0.10241 |
| C297 | 0.48405 | 0.53009 | 0.96588 |
| C298 | 0.3723  | 0.46736 | 0.6285 |
| C299 | 0.38043 | 0.49233 | 0.50582 |
| C300 | 0.40665 | 0.50279 | 0.37028 |
| C301 | 0.4151  | 0.52865 | 0.24511 |
| C302 | 0.44127 | 0.53843 | 0.11242 |
| C303 | 0.49254 | 0.55748 | 0.8482 |
| C304 | 0.47657 | 0.57481 | 0.86355 |
| C305 | 0.45125 | 0.56549 | 0.99169 |
| C306 | 0.50732 | 0.36192 | 0.04956 |
| C307 | 0.56303 | 0.42098 | 0.66387 |
| C308 | 0.4276  | 0.57586 | 0.54788 |
| C309 | 0.36848 | 0.51732 | 0.94066 |
| C310 | 0.34249 | 0.55524 | 0.97597 |
| C311 | 0.39435 | 0.60632 | 0.4895 |
| C312 | 0.3279  | 0.59214 | 0.14657 |
| C313 | 0.38954 | 0.64465 | 0.3353 |
| C314 | 0.59854 | 0.29341 | 0.4195 |
| H141 | 0.61622 | 0.25447 | 0.52178 |
| H142 | 0.58825 | 0.33   | 0.23601 |
|   |   |   |   |
|---|---|---|---|
| H143 | 0.59705 | 0.39133 | 0.60694 |
| H144 | 0.54936 | 0.34052 | 0.08324 |
| H145 | 0.49315 | 0.35751 | 0.61063 |
| H146 | 0.41534 | 0.36634 | 0.84163 |
| H147 | 0.44618 | 0.33874 | 0.82966 |
| H148 | 0.56539 | 0.43283 | 0.11123 |
| H149 | 0.57809 | 0.47608 | 0.8792 |
| H150 | 0.53241 | 0.53991 | 0.71675 |
| H151 | 0.564 | 0.51325 | 0.72312 |
| H152 | 0.36287 | 0.41855 | 0.86202 |
| H153 | 0.39328 | 0.39064 | 0.86092 |
| H154 | 0.35228 | 0.45973 | 0.72918 |
| H155 | 0.3672 | 0.50501 | 0.50871 |
| H156 | 0.51214 | 0.56545 | 0.74467 |
| H157 | 0.48428 | 0.59576 | 0.73351 |
| H158 | 0.43897 | 0.57904 | 0.0023 |
| H159 | 0.48387 | 0.35492 | 0.11149 |
| H160 | 0.51382 | 0.38262 | 0.95812 |
| H161 | 0.50526 | 0.34298 | 0.95559 |
| H162 | 0.57977 | 0.42196 | 0.77367 |
| H163 | 0.57207 | 0.44481 | 0.6056 |
| H164 | 0.54027 | 0.41428 | 0.7349 |
| H165 | 0.45126 | 0.58348 | 0.48678 |
| H166 | 0.4295 | 0.59397 | 0.6485 |
| H167 | 0.42075 | 0.55427 | 0.63063 |
| H168 | 0.36324 | 0.49466 | 0.00342 |
| H169 | 0.3486 | 0.51368 | 0.84782 |
| H170 | 0.38954 | 0.52511 | 0.848 |
| N11 | 0.29388 | 0.72396 | 0.23732 |
| N12 | 0.57128 | 0.27557 | 0.41844 |
| C311 | 0.06351 | 0.87911 | 0.57301 |
| C312 | 0.04115 | 0.87363 | 0.42363 |
| C313 | 0.02532 | 0.8911 | 0.41921 |
| C314 | 0.03223 | 0.91507 | 0.55707 |
| C315 | 0.05457 | 0.92037 | 0.70558 |
| C316 | 0.06986 | 0.90244 | 0.7158 |
| C317 | 0.01627 | 0.93395 | 0.54474 |
| C318 | 0.02977 | 0.96433 | 0.60657 |
| N13 | 0.98198 | 0.96912 | 0.59107 |
| C319 | 0.96725 | 0.98663 | 0.58178 |
| C320 | 0.31132 | 0.67879 | 0.74489 |
| C321 | 0.29773 | 0.64528 | 0.75374 |
| C322 | 0.29145 | 0.69392 | 0.74671 |
| C323 | 0.26231 | 0.6821 | 0.66174 |
| C324 | 0.24199 | 0.69651 | 0.67213 |
| C325 | 0.2452 | 0.71754 | 0.82287 |
| C326 | 0.22538 | 0.73085 | 0.83063 |
|   |   |   |   |
|---|---|---|---|
| C327 | 0.20192 | 0.72349 | 0.68508 |
| C328 | 0.19833 | 0.7022 | 0.53423 |
| C329 | 0.21798 | 0.68867 | 0.53074 |
| C330 | 0.1459 | 0.70222 | 0.93849 |
| C331 | 0.15502 | 0.72865 | 0.81361 |
| C332 | 0.13661 | 0.74444 | 0.68667 |
| C333 | 0.14472 | 0.77027 | 0.68667 |
| C334 | 0.17091 | 0.78017 | 0.55619 |
| C335 | 0.18985 | 0.76486 | 0.55884 |
| C336 | 0.18191 | 0.73932 | 0.68584 |
| C337 | 0.21709 | 0.7765 | 0.43028 |
| C338 | 0.22412 | 0.80047 | 0.30166 |
| C339 | 0.20475 | 0.81519 | 0.29035 |
| C340 | 0.17854 | 0.80543 | 0.42181 |
| C341 | 0.09205 | 0.75085 | 0.95241 |
| C342 | 0.08259 | 0.79291 | 0.95307 |
| C343 | 0.12643 | 0.78266 | 0.68661 |
| C344 | 0.13428 | 0.81159 | 0.55535 |
| C345 | 0.16022 | 0.82116 | 0.41984 |
| C346 | 0.1681 | 0.84637 | 0.2857 |
| C347 | 0.19326 | 0.85435 | 0.15146 |
| C348 | 0.21123 | 0.83933 | 0.15385 |
| C349 | 0.08259 | 0.79291 | 0.82283 |
| C350 | 0.05655 | 0.78339 | 0.9555 |
| C351 | 0.04904 | 0.75815 | 0.08517 |
| C352 | 0.0664 | 0.74245 | 0.08358 |
| C353 | 0.09085 | 0.8188 | 0.69222 |
| C354 | 0.11647 | 0.82806 | 0.55807 |
| C355 | 0.12492 | 0.85414 | 0.42965 |
| C356 | 0.15065 | 0.86373 | 0.29301 |
| C357 | 0.03874 | 0.79985 | 0.95437 |
| C358 | 0.04687 | 0.82485 | 0.83196 |
| C359 | 0.0732 | 0.83544 | 0.69709 |
| C360 | 0.08163 | 0.86134 | 0.57227 |
| C361 | 0.10781 | 0.87117 | 0.4396 |
| C362 | 0.15901 | 0.89203 | 0.17484 |
| C363 | 0.14294 | 0.90747 | 0.18988 |
| C364 | 0.11767 | 0.89816 | 0.31842 |
| C365 | 0.17397 | 0.69471 | 0.37596 |
| C366 | 0.2297 | 0.75379 | 0.99007 |
| C367 | 0.20936 | 0.90853 | 0.81617 |
| C368 | 0.09367 | 0.8497 | 0.26707 |
| C369 | 0.03512 | 0.88681 | 0.30314 |
| H171 | 0.00825 | 0.93834 | 0.81617 |
|   |   |   |   |
|---|---|---|---|
| H173 | 0.99284 | 0.92309 | 0.47425 |
| H174 | 0.05417 | 0.9761 | 0.66269 |
| C372 | 0.26356 | 0.62422 | 0.75734 |
| H175 | 0.28154 | 0.58495 | 0.85696 |
| H176 | 0.25312 | 0.66083 | 0.57213 |
| H177 | 0.26307 | 0.72337 | 0.93661 |
| H178 | 0.21517 | 0.67237 | 0.41382 |
| H179 | 0.15982 | 0.69026 | 0.93604 |
| H180 | 0.08192 | 0.69893 | 0.16696 |
| H181 | 0.11279 | 0.67136 | 0.15463 |
| H182 | 0.23209 | 0.7657 | 0.43737 |
| H183 | 0.24478 | 0.80899 | 0.20559 |
| H184 | 0.19911 | 0.87289 | 0.04428 |
| H185 | 0.23074 | 0.84625 | 0.05036 |
| H186 | 0.02938 | 0.75104 | 0.18778 |
| H187 | 0.05987 | 0.72322 | 0.16871 |
| H188 | 0.01866 | 0.79213 | 0.05461 |
| H189 | 0.03357 | 0.83745 | 0.83457 |
| H190 | 0.17858 | 0.8982 | 0.07104 |
| H191 | 0.15053 | 0.92834 | 0.09927 |
| H192 | 0.10531 | 0.91163 | 0.32886 |
| H193 | 0.15047 | 0.68779 | 0.43684 |
| H194 | 0.18069 | 0.7155 | 0.28492 |
| H195 | 0.1719 | 0.67579 | 0.28183 |
| H196 | 0.2467 | 0.75505 | 0.09893 |
| H197 | 0.23847 | 0.7775 | 0.93057 |
| H198 | 0.20704 | 0.74705 | 0.06257 |
| H199 | 0.11739 | 0.91642 | 0.81408 |
| H200 | 0.09531 | 0.92651 | 0.97569 |
| H201 | 0.08704 | 0.88697 | 0.95758 |
| H202 | 0.02983 | 0.82701 | 0.32944 |
| H203 | 0.01539 | 0.84807 | 0.17287 |
| H204 | 0.05636 | 0.85764 | 0.17588 |
| N14 | 0.95869 | 0.05542 | 0.57025 |
| N15 | 0.23626 | 0.60653 | 0.75892 |
| C373 | 0.78869 | 0.52489 | 0.86235 |
| C374 | 0.79393 | 0.5083 | 0.71162 |
| C375 | 0.77591 | 0.47524 | 0.70652 |
| C376 | 0.75197 | 0.45824 | 0.84618 |
| C377 | 0.74695 | 0.47507 | 0.99591 |
| C378 | 0.76519 | 0.50808 | 0.00585 |
| C379 | 0.73352 | 0.42367 | 0.83449 |
| C380 | 0.70503 | 0.40541 | 0.92359 |
| C381 | 0.70134 | 0.35184 | 0.92009 |
| C382 | 0.68188 | 0.31821 | 0.92494 |
| C383 | 0.98521 | 0.96685 | 0.094 |
| C384 | 0.01861 | 0.98794 | 0.09286 |
|   |    |    |    |
|---|----|----|----|
|C385| 0.97121| 0.93246| 0.11205|
|C386| 0.98342| 0.91565| 0.0283|
|C387| 0.96957| 0.88135| 0.19782|
|C388| 0.94835| 0.83107| 0.20975|
|C389| 0.9351| 0.86524| 0.90806|
|C390| 0.96264| 0.7935| 0.31941|
|C391| 0.93681| 0.76285| 0.18708|
|C392| 0.9214| 0.72895| 0.17669|
|C393| 0.93193| 0.71227| 0.30094|
|C394| 0.95763| 0.72981| 0.4284|
|C395| 0.97286| 0.76302| 0.4367|
|C396| 0.89603| 0.71222| 0.0403|
|C397| 0.88383| 0.72908| 0.91851|
|C398| 0.90073| 0.76292| 0.93429|
|C399| 0.92627| 0.77953| 0.0672|
|C400| 0.88882| 0.77919| 0.81526|
|C401| 0.86491| 0.76324| 0.6829|
|C402| 0.85092| 0.72967| 0.6562|
|C403| 0.86099| 0.71256| 0.77811|
|C404| 0.9158| 0.67767| 0.28929|
|C405| 0.89063| 0.66129| 0.15133|
|C406| 0.88069| 0.67831| 0.02524|
|C407| 0.85586| 0.66189| 0.88739|
|C408| 0.84606| 0.67892| 0.76042|
|C409| 0.82144| 0.66268| 0.61922|
|C410| 0.81315| 0.68058| 0.49488|
|C411| 0.82732| 0.71319| 0.51325|
|C412| 0.87492| 0.6275| 0.1379|
|C413| 0.88464| 0.61027| 0.26144|
|C414| 0.90948| 0.62697| 0.39723|
|C415| 0.92449| 0.65974| 0.41086|
|C416| 0.84938| 0.61693| 0.00161|
|C417| 0.83955| 0.62793| 0.87554|
|C418| 0.81432| 0.61128| 0.74056|
|C419| 0.80484| 0.6281| 0.61037|
|C420| 0.8687| 0.57632| 0.24572|
|C421| 0.84372| 0.56038| 0.11983|
|C422| 0.83297| 0.5769| 0.99411|
|C423| 0.80708| 0.56043| 0.8659|
|C424| 0.7975| 0.57732| 0.73807|
|C425| 0.77908| 0.61077| 0.48321|
|C426| 0.76221| 0.57753| 0.48468|
|C427| 0.77106| 0.56094| 0.6095|
|C428| 0.97163| 0.8153| 0.75868|
|     |      |      |      |
|-----|------|------|------|
| C432 | 0.91191 | 0.81255 | 0.36945 |
| C433 | 0.79546 | 0.52579 | 0.16543 |
| C434 | 0.81828 | 0.52579 | 0.55597 |
| H205 | 0.78009 | 0.46249 | 0.59075 |
| H206 | 0.73289 | 0.4623 | 0.10702 |
| H207 | 0.74341 | 0.41259 | 0.74103 |
| H208 | 0.69364 | 0.41661 | 0.00203 |
| C435 | 0.73568 | 0.36592 | 0.92292 |
| C436 | 0.70404 | 0.9765 | 0.10473 |
| H209 | 0.09466 | 0.033 | 0.14839 |
| H210 | 0.00414 | 0.92767 | 0.93256 |
| H211 | 0.94216 | 0.876 | 0.30803 |
| H212 | 0.99431 | 0.8785 | 0.791 |
| H213 | 0.97419 | 0.80502 | 0.3272 |
| H214 | 0.96627 | 0.71786 | 0.52349 |
| H215 | 0.99278 | 0.77591 | 0.53673 |
| H216 | 0.89926 | 0.80465 | 0.83315 |
| H217 | 0.85603 | 0.77581 | 0.59494 |
| H218 | 0.790 | 0.66876 | 0.3831 |
| H219 | 0.82012 | 0.72631 | 0.41731 |
| H220 | 0.91677 | 0.61386 | 0.49268 |
| H221 | 0.94338 | 0.67166 | 0.51838 |
| H222 | 0.87668 | 0.56342 | 0.33823 |
| H223 | 0.83133 | 0.53466 | 0.11203 |
| H224 | 0.77138 | 0.62291 | 0.38291 |
| H225 | 0.74191 | 0.56482 | 0.38712 |
| H226 | 0.75775 | 0.53518 | 0.61076 |
| H227 | 0.97865 | 0.79912 | 0.82132 |
| H228 | 0.95051 | 0.80096 | 0.66882 |
| H229 | 0.99068 | 0.83195 | 0.66316 |
| H230 | 0.90989 | 0.82816 | 0.47465 |
| H231 | 0.88818 | 0.79672 | 0.30952 |
| H232 | 0.9193 | 0.7977 | 0.44669 |
| H233 | 0.75228 | 0.54201 | 0.1049 |
| H234 | 0.74084 | 0.50964 | 0.26484 |
| H235 | 0.78122 | 0.50415 | 0.2498 |
| H236 | 0.84138 | 0.54307 | 0.61942 |
| H237 | 0.82144 | 0.51025 | 0.49595 |
| H238 | 0.81084 | 0.54002 | 0.46711 |
| N16 | 0.0595 | 0.96808 | 0.11212 |
| C437 | 0.45644 | 0.85917 | 0.17997 |
| C438 | 0.46172 | 0.84224 | 0.03173 |
| C439 | 0.44388 | 0.80914 | 0.00364 |
| C440 | 0.41997 | 0.79246 | 0.1711 |
| C441 | 0.41485 | 0.80966 | 0.31788 |
| C442 | 0.43299 | 0.84269 | 0.32435 |
| C443 | 0.40159 | 0.75785 | 0.16326 |
|   |   |   |   |
|---|---|---|---|
| C444 | 0.37299 | 0.73978 | 0.25169 |
| C445 | 0.36940 | 0.68624 | 0.25558 |
| C446 | 0.34999 | 0.65264 | 0.26449 |
| C447 | 0.65286 | 0.30121 | 0.42529 |
| C448 | 0.68628 | 0.32225 | 0.42436 |
| C449 | 0.65286 | 0.30121 | 0.42529 |
| C450 | 0.65082 | 0.24992 | 0.35709 |
| C451 | 0.63672 | 0.21557 | 0.37311 |
| C452 | 0.61524 | 0.19799 | 0.52356 |
| C453 | 0.60177 | 0.16512 | 0.5337 |
| C454 | 0.60943 | 0.1492  | 0.39021 |
| C455 | 0.63117 | 0.16658 | 0.23977 |
| C456 | 0.64493 | 0.19952 | 0.23459 |
| C457 | 0.62932 | 0.1135  | 0.64257 |
| C458 | 0.60359 | 0.09701 | 0.50957 |
| C459 | 0.58833 | 0.06313 | 0.48819 |
| C460 | 0.59891 | 0.04646 | 0.62217 |
| C461 | 0.6245  | 0.06399 | 0.75033 |
| C462 | 0.63959 | 0.09717 | 0.75956 |
| C463 | 0.56308 | 0.04643 | 0.36106 |
| C464 | 0.5528  | 0.06327 | 0.23973 |
| C465 | 0.56756 | 0.09709 | 0.25653 |
| C466 | 0.59301 | 0.11369 | 0.38747 |
| C467 | 0.55557 | 0.11334 | 0.13802 |
| C468 | 0.53171 | 0.09741 | 0.00534 |
| C469 | 0.5179  | 0.06388 | 0.97749 |
| C470 | 0.52806 | 0.04678 | 0.09875 |
| C471 | 0.58293 | 0.01187 | 0.60949 |
| C472 | 0.55791 | 0.09552 | 0.47057 |
| C473 | 0.54793 | 0.01254 | 0.3448 |
| C474 | 0.5232  | 0.99614 | 0.20624 |
| C475 | 0.51331 | 0.01317 | 0.07988 |
| C476 | 0.48878 | 0.99694 | 0.9382 |
| C477 | 0.4904  | 0.01485 | 0.81449 |
| C478 | 0.49439 | 0.04743 | 0.83399 |
| C479 | 0.54238 | 0.96176 | 0.456 |
| C480 | 0.5521  | 0.94452 | 0.57956 |
| C481 | 0.57675 | 0.9612  | 0.71645 |
| C482 | 0.59161 | 0.99395 | 0.73106 |
| C483 | 0.51699 | 0.94521 | 0.31875 |
| C484 | 0.50748 | 0.9622  | 0.19315 |
| C485 | 0.48193 | 0.94555 | 0.05775 |
| C486 | 0.47232 | 0.96237 | 0.92838 |
| C487 | 0.53633 | 0.9106  | 0.56271 |
| C488 | 0.51115 | 0.89468 | 0.43575 |
| C489 | 0.50073 | 0.91119 | 0.31028 |
| C490 | 0.47488 | 0.89471 | 0.18182 |
|     |    |    |    |
|-----|----|----|----|
| C491 | 0.46523 | 0.91159 | 0.05446 |
| C492 | 0.44654 | 0.94503 | 0.80135 |
| C493 | 0.42978 | 0.91179 | 0.80215 |
| C494 | 0.43877 | 0.8952 | 0.92506 |
| C495 | 0.63862 | 0.14964 | 0.08317 |
| C496 | 0.57841 | 0.14645 | 0.69226 |
| C497 | 0.42729 | 0.86079 | 0.48147 |
| C498 | 0.48955 | 0.85982 | 0.87471 |
| H239 | 0.44825 | 0.7961 | 0.91776 |
| H240 | 0.3968 | 0.79717 | 0.42947 |
| H241 | 0.41167 | 0.74656 | 0.07331 |
| H242 | 0.36147 | 0.7512 | 0.32633 |
| C499 | 0.40373 | 0.70029 | 0.25748 |
| C500 | 0.70857 | 0.31075 | 0.43403 |
| H243 | 0.74717 | 0.36719 | 0.48193 |
| H244 | 0.67162 | 0.26193 | 0.26192 |
| H245 | 0.60901 | 0.21001 | 0.63405 |
| H246 | 0.66163 | 0.21288 | 0.11849 |
| H247 | 0.64076 | 0.13916 | 0.65107 |
| H248 | 0.63318 | 0.05204 | 0.8452 |
| H249 | 0.65943 | 0.11006 | 0.86014 |
| H250 | 0.56589 | 0.13877 | 0.15673 |
| H251 | 0.52275 | 0.10996 | 0.91789 |
| H252 | 0.46231 | 0.00305 | 0.70231 |
| H253 | 0.48712 | 0.06055 | 0.73851 |
| H254 | 0.58403 | 0.94809 | 0.81201 |
| H255 | 0.61037 | 0.00584 | 0.8394 |
| H256 | 0.5443 | 0.8977 | 0.65516 |
| H257 | 0.49926 | 0.86898 | 0.42694 |
| H258 | 0.43872 | 0.95716 | 0.70179 |
| H259 | 0.40945 | 0.89908 | 0.70481 |
| H260 | 0.42555 | 0.86944 | 0.9269 |
| H261 | 0.64561 | 0.1334 | 0.14552 |
| H262 | 0.61753 | 0.13534 | 0.99303 |
| H263 | 0.65771 | 0.16632 | 0.98803 |
| H264 | 0.57512 | 0.16187 | 0.79266 |
| H265 | 0.55516 | 0.12953 | 0.63069 |
| H266 | 0.58655 | 0.13272 | 0.77549 |
| H267 | 0.42103 | 0.87754 | 0.41856 |
| H268 | 0.40809 | 0.84494 | 0.57865 |
| H269 | 0.44884 | 0.87463 | 0.5688 |
| H270 | 0.50911 | 0.87678 | 0.93679 |
| H271 | 0.48901 | 0.84364 | 0.77968 |
| H272 | 0.47841 | 0.87342 | 0.78469 |
| N17  | 0.72709 | 0.30225 | 0.43908 |
| C501 | 0.12091 | 0.19037 | 0.52392 |
| C502 | 0.12602 | 0.17374 | 0.3729 |
| C503 | 0.108 | 0.14068 | 0.36822 |
|------|-------|---------|---------|
| C504 | 0.08417 | 0.12372 | 0.50853 |
| C505 | 0.07921 | 0.1406  | 0.65822 |
| C506 | 0.09746 | 0.17361 | 0.6678  |
| C507 | 0.0658  | 0.08913 | 0.4977  |
| C508 | 0.03735 | 0.07087 | 0.58712 |
| C509 | 0.03383 | 0.01736 | 0.58643 |
| C510 | 0.01442 | 0.98374 | 0.5929  |
| C511 | 0.31792 | 0.63194 | 0.76129 |
| C512 | 0.35133 | 0.653   | 0.76108 |
| C513 | 0.30404 | 0.59752 | 0.77687 |
| C514 | 0.31657 | 0.58106 | 0.69212 |
| C515 | 0.30311 | 0.54678 | 0.70805 |
| C516 | 0.28206 | 0.52903 | 0.85974 |
| C517 | 0.26901 | 0.49621 | 0.86963 |
| C518 | 0.27669 | 0.48052 | 0.7247  |
| C519 | 0.29811 | 0.4981  | 0.57331 |
| C520 | 0.31146 | 0.531   | 0.56839 |
| C521 | 0.29679 | 0.44464 | 0.97451 |
| C522 | 0.27086 | 0.42823 | 0.84274 |
| C523 | 0.25526 | 0.39431 | 0.83261 |
| C524 | 0.26572 | 0.37754 | 0.95651 |
| C525 | 0.29152 | 0.325   | 0.0835  |
| C526 | 0.30691 | 0.42821 | 0.09165 |
| C527 | 0.2297  | 0.37767 | 0.69727 |
| C528 | 0.21951 | 0.39463 | 0.57622 |
| C529 | 0.23462 | 0.42849 | 0.5918  |
| C530 | 0.26032 | 0.44501 | 0.72123 |
| C531 | 0.22267 | 0.44484 | 0.47402 |
| C532 | 0.19853 | 0.42897 | 0.34293 |
| C533 | 0.18432 | 0.39537 | 0.31639 |
| C534 | 0.19442 | 0.37818 | 0.43721 |
| C535 | 0.24935 | 0.34292 | 0.94544 |
| C536 | 0.22396 | 0.32662 | 0.80871 |
| C537 | 0.21408 | 0.34374 | 0.68298 |
| C538 | 0.18902 | 0.32739 | 0.54638 |
| C539 | 0.17924 | 0.34451 | 0.42001 |
| C540 | 0.1544  | 0.32833 | 0.28007 |
| C541 | 0.14607 | 0.34632 | 0.15669 |
| C542 | 0.16045 | 0.37895 | 0.1748  |
| C543 | 0.20793 | 0.2928  | 0.79632 |
| C544 | 0.21755 | 0.27546 | 0.9197  |
| C545 | 0.24264 | 0.2921  | 0.05407 |
| C546 | 0.25796 | 0.3249  | 0.06664 |
| C547 | 0.18217 | 0.27631 | 0.66127 |
| C548 | 0.17282 | 0.29341 | 0.5354  |
| C549 | 0.14702 | 0.27684 | 0.40145 |
|   |   |   |   |
|---|---|---|---|
| H273 | 0.11211 | 0.1279 | 0.25235 |
| H274 | 0.06122 | 0.12787 | 0.76973 |
| H275 | 0.07575 | 0.07804 | 0.40486 |
| H276 | 0.02591 | 0.08208 | 0.66494 |
| C563 | 0.06818 | 0.03153 | 0.58924 |
| C564 | 0.37371 | 0.64162 | 0.77203 |
| H277 | 0.41217 | 0.69806 | 0.82178 |
| H278 | 0.33731 | 0.59339 | 0.59679 |
| H279 | 0.27578 | 0.54088 | 0.97119 |
| H280 | 0.32787 | 0.54451 | 0.45138 |
| H281 | 0.30845 | 0.47032 | 0.98221 |
| H282 | 0.30009 | 0.38296 | 0.17846 |
| H283 | 0.32687 | 0.44105 | 0.19154 |
| H284 | 0.23325 | 0.47032 | 0.49186 |
| H285 | 0.18963 | 0.44161 | 0.25588 |
| H286 | 0.12771 | 0.33454 | 0.04598 |
| H287 | 0.1532 | 0.39214 | 0.07973 |
| H288 | 0.24987 | 0.27891 | 0.14927 |
| H289 | 0.27705 | 0.33676 | 0.17308 |
| H290 | 0.20909 | 0.2285 | 0.99796 |
| H291 | 0.16343 | 0.19991 | 0.77366 |
| H292 | 0.1041 | 0.2887 | 0.04472 |
| H293 | 0.07433 | 0.23062 | 0.04948 |
| H294 | 0.08999 | 0.20083 | 0.27318 |
| H295 | 0.31257 | 0.46507 | 0.47574 |
| H296 | 0.28448 | 0.46725 | 0.32458 |
| H297 | 0.32465 | 0.49823 | 0.32044 |
| H298 | 0.2444 | 0.4928 | 0.13794 |
| H299 | 0.22188 | 0.46323 | 0.96871 |
| H300 | 0.25268 | 0.46172 | 0.1006 |
| H301 | 0.08357 | 0.20682 | 0.76665 |
| H302 | 0.0738 | 0.17521 | 0.92992 |
| H303 | 0.11371 | 0.20652 | 0.90762 |
| H304 | 0.17334 | 0.20863 | 0.2792 |
|    |    |    |    |
|----|----|----|----|
| H305 | 0.15346 | 0.17562 | 0.1207 |
| H306 | 0.14262 | 0.20521 | 0.12713 |
| N18  | 0.39243 | 0.63338 | 0.77893 |
Table S4. Atomistic coordinates for the refined unit cell parameters for DBOV-DCTMP-COF via Pawley refinement. Space group: \( P1 \); \( a = 48.1910 \, \text{Å}, \, b = 48.7247 \, \text{Å}, \, c = 6.8537 \, \text{Å}, \, \alpha = 90.0000^\circ, \, \beta = 90.0000^\circ, \, \gamma = 120.0040^\circ \). Pawley-refined PXRD profile confirmed the correctness of the peak assignment as evident by a small difference with \( R_w \) and \( R_p \) values of 0.32% and 0.19%, respectively.

| Atom | X     | Y     | Z     |
|------|-------|-------|-------|
| C1   | 0.47847 | 0.26905 | 0.87033 |
| C2   | 0.49538 | 0.29036 | 0.71731 |
| C3   | 0.52876 | 0.30488 | 0.70911 |
| C4   | 0.54592 | 0.29812 | 0.8488 |
| C5   | 0.52893 | 0.27731 | 0.0028 |
| C6   | 0.49558 | 0.26292 | 0.01485 |
| C7   | 0.5808 | 0.31366 | 0.83332 |
| C8   | 0.59955 | 0.30402 | 0.92241 |
| C9   | 0.65284 | 0.35497 | 0.91396 |
| C10  | 0.68671 | 0.37073 | 0.91629 |
| C11  | 0.03061 | 0.02121 | 0.08321 |
| N1   | 0.01074 | 0.03337 | 0.07547 |
| C12  | 0.06535 | 0.04274 | 0.08726 |
| C13  | 0.08083 | 0.07242 | 0.01228 |
| C14  | 0.11579 | 0.09278 | 0.01829 |
| C15  | 0.13405 | 0.08948 | 0.16723 |
| C16  | 0.16738 | 0.10874 | 0.1726 |
| C17  | 0.18331 | 0.1316 | 0.02522 |
| C18  | 0.16524 | 0.13497 | 0.87455 |
| C19  | 0.13182 | 0.11607 | 0.87444 |
| C20  | 0.21871 | 0.187 | 0.27792 |
| C21  | 0.23585 | 0.1781 | 0.14831 |
| C22  | 0.27021 | 0.19665 | 0.14456 |
| C23  | 0.28661 | 0.22331 | 0.27273 |
| C24  | 0.26837 | 0.2311 | 0.39641 |
| C25  | 0.23477 | 0.21317 | 0.39901 |
| C26  | 0.28776 | 0.18852 | 0.01168 |
| C27  | 0.27115 | 0.16208 | 0.88549 |
| C28  | 0.23679 | 0.14309 | 0.89434 |
| C29  | 0.21934 | 0.15123 | 0.02295 |
| C30  | 0.22091 | 0.11556 | 0.77063 |
| C31  | 0.23766 | 0.10828 | 0.64044 |
| C32  | 0.27179 | 0.12777 | 0.62201 |
| C33  | 0.28856 | 0.15429 | 0.74877 |
| C34  | 0.32168 | 0.24161 | 0.26951 |
| C35  | 0.3389 | 0.23327 | 0.13544 |
| C36  | 0.32218 | 0.20694 | 0.0049 |
| C37  | 0.33946 | 0.19988 | 0.87113 |
| C38  | 0.32273 | 0.17277 | 0.73982 |
| C39  | 0.33985 | 0.16478 | 0.60301 |
| C40  | 0.32228 | 0.13928 | 0.4735 |
| C41  | 0.28917 | 0.12112 | 0.48298 |
| C42  | 0.37317 | 0.25116 | 0.13039 |
| C43  | 0.39005 | 0.27744 | 0.2589 |
|   |     |     |     |
|---|-----|-----|-----|
| C44 | 0.3725 | 0.28508 | 0.39102 |
| C45 | 0.33929 | 0.26754 | 0.39616 |
| C46 | 0.39061 | 0.24274 | 0.99762 |
| C47 | 0.3739 | 0.21687 | 0.86751 |
| C48 | 0.39137 | 0.2083 | 0.73679 |
| C49 | 0.37486 | 0.18244 | 0.60338 |
| C50 | 0.42446 | 0.29535 | 0.25131 |
| C51 | 0.44117 | 0.287 | 0.12738 |
| C52 | 0.4251 | 0.26037 | 0.99703 |
| C53 | 0.44241 | 0.25159 | 0.87155 |
| C54 | 0.42573 | 0.22538 | 0.74157 |
| C55 | 0.42899 | 0.17414 | 0.48174 |
| C56 | 0.42444 | 0.19027 | 0.49117 |
| C57 | 0.44273 | 0.21545 | 0.61788 |
| C58 | 0.18196 | 0.15814 | 0.71168 |
| C59 | 0.18624 | 0.10409 | 0.3304 |
| C60 | 0.47795 | 0.24007 | 0.17745 |
| C61 | 0.4774 | 0.29678 | 0.56172 |
| H1  | 0.54164 | 0.32115 | 0.59034 |
| H2  | 0.54179 | 0.27246 | 0.11569 |
| H3  | 0.59187 | 0.33413 | 0.7363 |
| H4  | 0.58852 | 0.28182 | 0.00355 |
| C62 | 0.63757 | 0.37394 | 0.91196 |
| H5  | 0.96877 | 0.05132 | 0.151 |
| H6  | 0.06706 | 0.08146 | 0.93717 |
| H7  | 0.12219 | 0.07204 | 0.28232 |
| H8  | 0.11814 | 0.11876 | 0.75743 |
| H9  | 0.19273 | 0.17283 | 0.28171 |
| H10 | 0.28007 | 0.25131 | 0.49467 |
| H11 | 0.22134 | 0.21987 | 0.49561 |
| H12 | 0.19508 | 0.10051 | 0.78303 |
| H13 | 0.22533 | 0.08736 | 0.54845 |
| H14 | 0.33477 | 0.13329 | 0.36455 |
| H15 | 0.27634 | 0.10134 | 0.38314 |
| H16 | 0.38532 | 0.30495 | 0.49036 |
| H17 | 0.32676 | 0.27417 | 0.50114 |
| H18 | 0.43708 | 0.31565 | 0.34802 |
| H19 | 0.46722 | 0.30309 | 0.12511 |
| H20 | 0.38103 | 0.15457 | 0.37966 |
| H21 | 0.43966 | 0.18275 | 0.39789 |
| H22 | 0.46874 | 0.22777 | 0.62438 |
| H23 | 0.19944 | 0.18142 | 0.76769 |
| H24 | 0.19516 | 0.15025 | 0.61992 |
| H25 | 0.16494 | 0.16051 | 0.61902 |
| H26 | 0.17074 | 0.08984 | 0.44899 |
| H27 | 0.19841 | 0.09201 | 0.27268 |
| H28 | 0.20472 | 0.12667 | 0.38926 |
|   |   |   |   |
|---|---|---|---|
| H29 | 0.4648 | 0.21583 | 0.12228 |
| H30 | 0.49443 | 0.24115 | 0.28956 |
| H31 | 0.4604 | 0.24497 | 0.24481 |
| H32 | 0.46029 | 0.30266 | 0.62529 |
| H33 | 0.49366 | 0.31606 | 0.46673 |
| H34 | 0.4636 | 0.27581 | 0.47119 |
| N2  | 0.76319 | 0.37655 | 0.92199 |
| C63 | 0.14616 | 0.60179 | 0.2077 |
| C64 | 0.16291 | 0.62312 | 0.05448 |
| C65 | 0.19628 | 0.63776 | 0.04534 |
| C66 | 0.21362 | 0.63117 | 0.18456 |
| C67 | 0.19679 | 0.61024 | 0.33846 |
| C68 | 0.16343 | 0.5957 | 0.35136 |
| C69 | 0.24853 | 0.64713 | 0.16911 |
| C70 | 0.26761 | 0.63804 | 0.25966 |
| C71 | 0.32082 | 0.68924 | 0.24724 |
| C72 | 0.35471 | 0.70507 | 0.24836 |
| C73 | 0.69834 | 0.36777 | 0.41076 |
| N3  | 0.73008 | 0.37705 | 0.42209 |
| C74 | 0.74857 | 0.40689 | 0.34951 |
| C75 | 0.78354 | 0.42724 | 0.35629 |
| C76 | 0.8017 | 0.42374 | 0.50508 |
| C77 | 0.83503 | 0.4429 | 0.51083 |
| C78 | 0.85107 | 0.46853 | 0.36399 |
| C79 | 0.83309 | 0.46944 | 0.21373 |
| C80 | 0.79966 | 0.45066 | 0.21236 |
| C81 | 0.88676 | 0.52109 | 0.61729 |
| C82 | 0.90377 | 0.51205 | 0.48756 |
| C83 | 0.93814 | 0.53039 | 0.48396 |
| C84 | 0.95469 | 0.55701 | 0.61227 |
| C85 | 0.93658 | 0.56493 | 0.73619 |
| C86 | 0.90297 | 0.54719 | 0.7377 |
| C87 | 0.95556 | 0.5221 | 0.35103 |
| C88 | 0.93881 | 0.4957 | 0.2247 |
| C89 | 0.90444 | 0.47694 | 0.23334 |
| C90 | 0.86711 | 0.48524 | 0.36193 |
| C91 | 0.88841 | 0.44945 | 0.10942 |
| C92 | 0.90504 | 0.44199 | 0.9794 |
| C93 | 0.9392 | 0.46128 | 0.96112 |
| C94 | 0.9561 | 0.48776 | 0.08796 |
| C95 | 0.98977 | 0.57514 | 0.60883 |
| C96 | 0.00685 | 0.56664 | 0.47473 |
| C97 | 0.98999 | 0.54033 | 0.34428 |
| C98 | 0.00715 | 0.53223 | 0.21039 |
| C99 | 0.99029 | 0.50606 | 0.07898 |
| C100| 0.00727 | 0.49796 | 0.94192 |
|   |   |   |   |
|---|---|---|---|
| C102 | 0.98958 | 0.47248 | 0.81247 |
| C103 | 0.95646 | 0.45448 | 0.82208 |
| C104 | 0.04113 | 0.58438 | 0.46943 |
| C105 | 0.05814 | 0.61071 | 0.59744 |
| C106 | 0.04072 | 0.61852 | 0.72952 |
| C107 | 0.0075 | 0.6011 | 0.73511 |
| C108 | 0.05844 | 0.57579 | 0.33671 |
| C109 | 0.04229 | 0.51549 | 0.94182 |
| C110 | 0.09255 | 0.62849 | 0.58938 |
| C111 | 0.09294 | 0.59328 | 0.3584 |
| C112 | 0.11011 | 0.58438 | 0.21005 |
| C113 | 0.10915 | 0.55822 | 0.07984 |
| C114 | 0.09329 | 0.52321 | 0.82789 |
| C115 | 0.11016 | 0.54829 | 0.9551 |
| H35  | 0.20902 | 0.65407 | 0.92653 |
| H36  | 0.20982 | 0.60549 | 0.45073 |
| C120 | 0.84994 | 0.49274 | 0.05166 |
| H37  | 0.25933 | 0.66751 | 0.07137 |
| H38  | 0.25683 | 0.61593 | 0.34179 |
| C121 | 0.30539 | 0.70805 | 0.2429 |
| H39  | 0.63654 | 0.38567 | 0.48856 |
| H40  | 0.73482 | 0.41605 | 0.27557 |
| H41  | 0.78974 | 0.40623 | 0.61967 |
| C124 | 0.14959 | 0.5729 | 0.51439 |
| H43  | 0.14475 | 0.62951 | 0.90003 |
| H44  | 0.20902 | 0.65407 | 0.92653 |
| H45  | 0.20982 | 0.60549 | 0.45073 |
| H46  | 0.25933 | 0.66751 | 0.07137 |
| H47  | 0.25683 | 0.61593 | 0.34179 |
| H48  | 0.30539 | 0.70805 | 0.2429 |
| H49  | 0.63654 | 0.38567 | 0.48856 |
| H50  | 0.73482 | 0.41605 | 0.27557 |
| H51  | 0.78974 | 0.40623 | 0.61967 |
| H52  | 0.14959 | 0.5729 | 0.51439 |
| H53  | 0.14475 | 0.62951 | 0.90003 |
| H54  | 0.20902 | 0.65407 | 0.92653 |
| H55  | 0.20982 | 0.60549 | 0.45073 |
| H56  | 0.25933 | 0.66751 | 0.07137 |
| H57  | 0.25683 | 0.61593 | 0.34179 |
| H58  | 0.30539 | 0.70805 | 0.2429 |
| H59  | 0.63654 | 0.38567 | 0.48856 |
| H60  | 0.73482 | 0.41605 | 0.27557 |
| H61  | 0.78974 | 0.40623 | 0.61967 |
| H62  | 0.14959 | 0.5729 | 0.51439 |
| H63  | 0.14475 | 0.62951 | 0.90003 |

SUPPORTING INFORMATION
| Name  | Value1  | Value2  | Value3  |
|-------|---------|---------|---------|
| H59   | 0.83298 | 0.49514 | 0.95849 |
| H60   | 0.83818 | 0.42304 | 0.764   |
| H61   | 0.8669  | 0.4271  | 0.60948 |
| H62   | 0.87158 | 0.46068 | 0.73229 |
| H63   | 0.13168 | 0.5488  | 0.45847 |
| H64   | 0.16259 | 0.57312 | 0.62224 |
| H65   | 0.12939 | 0.57863 | 0.58737 |
| H66   | 0.12789 | 0.63563 | 0.96474 |
| H67   | 0.13065 | 0.60845 | 0.81071 |
| H68   | 0.43122 | 0.71079 | 0.25579 |
| C125  | 0.81098 | 0.93466 | 0.53968 |
| C126  | 0.82783 | 0.95595 | 0.38651 |
| C127  | 0.86119 | 0.97032 | 0.37725 |
| C128  | 0.87837 | 0.96343 | 0.51608 |
| C129  | 0.86144 | 0.94265 | 0.67037 |
| C130  | 0.82811 | 0.92841 | 0.68343 |
| C131  | 0.91323 | 0.97888 | 0.49955 |
| C132  | 0.93204 | 0.96935 | 0.58903 |
| C133  | 0.98525 | 0.02036 | 0.57683 |
| C134  | 0.01912 | 0.03618 | 0.58085 |
| C135  | 0.36338 | 0.66629 | 0.75456 |
| N5    | 0.34356 | 0.69849 | 0.74965 |
| C136  | 0.3981  | 0.70781 | 0.76011 |
| C137  | 0.41356 | 0.73754 | 0.668 |
| C138  | 0.44848 | 0.75803 | 0.69339 |
| C139  | 0.46671 | 0.75455 | 0.84185 |
| C140  | 0.5     | 0.77392 | 0.88416 |
| C141  | 0.51594 | 0.79708 | 0.70239 |
| C142  | 0.49789 | 0.80071 | 0.55269 |
| C143  | 0.46449 | 0.78166 | 0.55139 |
| C144  | 0.5515  | 0.85217 | 0.95778 |
| C145  | 0.56855 | 0.84339 | 0.82665 |
| C146  | 0.60291 | 0.86193 | 0.82214 |
| C147  | 0.61941 | 0.88851 | 0.95077 |
| C148  | 0.60126 | 0.89618 | 0.07601 |
| C149  | 0.56766 | 0.87824 | 0.07851 |
| C150  | 0.62037 | 0.85388 | 0.68798 |
| C151  | 0.60369 | 0.82748 | 0.56156 |
| C152  | 0.56933 | 0.80854 | 0.57094 |
| C153  | 0.55196 | 0.81666 | 0.7004 |
| C154  | 0.55337 | 0.78103 | 0.44708 |
| C155  | 0.57005 | 0.77371 | 0.31661 |
| C156  | 0.60416 | 0.79321 | 0.29731 |
| C157  | 0.62101 | 0.81973 | 0.42393 |
| C158  | 0.65448 | 0.90689 | 0.94614 |
| C159  | 0.6716  | 0.89865 | 0.81065 |
|   |       |       |       |
|---|-------|-------|-------|
| C160 | 0.65479 | 0.87234 | 0.68013 |
| C161 | 0.67198 | 0.86446 | 0.54516 |
| C162 | 0.65517 | 0.83825 | 0.41391 |
| C163 | 0.67218 | 0.83032 | 0.27604 |
| C164 | 0.65454 | 0.80481 | 0.14677 |
| C165 | 0.62144 | 0.78659 | 0.1574  |
| C166 | 0.70586 | 0.91665 | 0.80408 |
| C167 | 0.72282 | 0.94297 | 0.93222 |
| C168 | 0.70537 | 0.9505  | 0.06573 |
| C169 | 0.67217 | 0.93284 | 0.07255 |
| C170 | 0.72321 | 0.9083  | 0.67011 |
| C171 | 0.70641 | 0.88242 | 0.54026 |
| C172 | 0.72379 | 0.8739  | 0.40839 |
| C173 | 0.7072  | 0.84804 | 0.2751  |
| C174 | 0.75721 | 0.961   | 0.92286 |
| C175 | 0.77385 | 0.9527  | 0.79983 |
| C176 | 0.7577  | 0.92601 | 0.68818 |
| C177 | 0.77492 | 0.91725 | 0.54181 |
| C178 | 0.75815 | 0.89103 | 0.41195 |
| C179 | 0.72515 | 0.83981 | 0.15227 |
| C180 | 0.75871 | 0.856   | 0.16044 |
| C181 | 0.77507 | 0.88118 | 0.28708 |
| C182 | 0.51465 | 0.62437 | 0.3923  |
| C183 | 0.51892 | 0.76931 | 0.00565 |
| C184 | 0.81048 | 0.90568 | 0.8465  |
| C185 | 0.80979 | 0.96249 | 0.232   |
| H69  | 0.87404 | 0.98657 | 0.25832 |
| H70  | 0.87432 | 0.93769 | 0.78258 |
| H71  | 0.92423 | 0.99923 | 0.40162 |
| H72  | 0.92107 | 0.94724 | 0.67114 |
| C186 | 0.96994 | 0.03929 | 0.57522 |
| H73  | 0.30211 | 0.71686 | 0.81951 |
| H74  | 0.39979 | 0.74852 | 0.61037 |
| H75  | 0.45486 | 0.73689 | 0.95588 |
| H76  | 0.45081 | 0.78453 | 0.43502 |
| H77  | 0.52552 | 0.83802 | 0.96206 |
| H78  | 0.61302 | 0.91632 | 0.17415 |
| H79  | 0.55431 | 0.88488 | 0.17718 |
| H80  | 0.52753 | 0.766   | 0.4598  |
| H81  | 0.55767 | 0.75277 | 0.22481 |
| H82  | 0.66694 | 0.79885 | 0.03708 |
| H83  | 0.60854 | 0.7668  | 0.0577  |
| H84  | 0.71825 | 0.9704  | 0.1648  |
| H85  | 0.65972 | 0.93939 | 0.17858 |
| H86  | 0.76868 | 0.98138 | 0.01904 |
| H87  | 0.79989 | 0.96618 | 0.79455 |
| H88  | 0.71322 | 0.82025 | 0.05021 |
|   |   |   |   |
|---|---|---|---|
| H89 | 0.77187 | 0.84854 | 0.06625 |
| H90 | 0.80109 | 0.89354 | 0.2926 |
| H91 | 0.53179 | 0.84757 | 0.45098 |
| H92 | 0.52824 | 0.81701 | 0.30015 |
| H93 | 0.49762 | 0.82672 | 0.29957 |
| H94 | 0.50323 | 0.75283 | 0.116 |
| H95 | 0.53347 | 0.79169 | 0.95408 |
| H96 | 0.49762 | 0.84757 | 0.06653 |
| H97 | 0.53179 | 0.84757 | 0.45098 |
| H98 | 0.49762 | 0.84757 | 0.06653 |
| H99 | 0.50323 | 0.75283 | 0.116 |
| H100| 0.50323 | 0.75283 | 0.116 |
| H101| 0.0957 | 0.04225 | 0.58824 |
| C187| 0.73049 | 0.2132 | 0.90159 |
| C188| 0.70812 | 0.20783 | 0.75246 |
| C189| 0.69245 | 0.22545 | 0.74817 |
| C190| 0.69951 | 0.24946 | 0.88599 |
| C191| 0.72189 | 0.25469 | 0.03418 |
| C192| 0.73073 | 0.23661 | 0.04419 |
| C193| 0.68363 | 0.26841 | 0.87426 |
| C194| 0.69718 | 0.29876 | 0.93996 |
| C195| 0.64943 | 0.30366 | 0.92319 |
| C196| 0.63477 | 0.32125 | 0.91564 |
| C197| 0.96498 | 0.98012 | 0.08461 |
| C198| 0.95839 | 0.02848 | 0.07718 |
| C199| 0.92918 | 0.01632 | 0.99269 |
| C200| 0.90841 | 0.03202 | 0.00435 |
| C201| 0.91137 | 0.05106 | 0.15565 |
| C202| 0.89132 | 0.06411 | 0.16374 |
| C203| 0.86785 | 0.05663 | 0.01815 |
| C204| 0.86437 | 0.03536 | 0.8474 |
| C205| 0.86437 | 0.03536 | 0.8474 |
| C206| 0.81177 | 0.0356 | 0.27147 |
| C207| 0.82096 | 0.06195 | 0.14579 |
| C208| 0.80265 | 0.07785 | 0.14803 |
| C209| 0.77613 | 0.06756 | 0.27956 |
| C210| 0.7681 | 0.04129 | 0.39962 |
| C211| 0.78564 | 0.02539 | 0.39421 |
| C212| 0.81086 | 0.10366 | 0.01777 |
| C213| 0.83709 | 0.11344 | 0.88767 |
| C214| 0.85592 | 0.09803 | 0.89097 |
| C215| 0.84784 | 0.07247 | 0.01815 |
| C216| 0.88326 | 0.10963 | 0.76323 |
| C217| 0.89047 | 0.13365 | 0.6347 |
|   |   |   |   |
|---|---|---|---|
| C218 | 0.87116 | 0.14843 | 0.62244 |
| C219 | 0.84487 | 0.13872 | 0.75317 |
| C220 | 0.75819 | 0.08452 | 0.28314 |
| C221 | 0.76659 | 0.11019 | 0.1515 |
| C222 | 0.85989 | 0.18767 | 0.48248 |
| C223 | 0.76659 | 0.12667 | 0.15256 |
| C224 | 0.71528 | 0.09206 | 0.41499 |
| C225 | 0.73253 | 0.07624 | 0.41401 |
| C226 | 0.79156 | 0.18775 | 0.75896 |
| C227 | 0.8173 | 0.19721 | 0.62261 |
| C228 | 0.70526 | 0.13389 | 0.28348 |
| C229 | 0.71354 | 0.15891 | 0.16093 |
| C230 | 0.79269 | 0.16168 | 0.88769 |
| C231 | 0.7536 | 0.15255 | 0.02164 |
| C232 | 0.78298 | 0.16618 | 0.88769 |
| C233 | 0.79156 | 0.18775 | 0.75896 |
| C234 | 0.8173 | 0.19721 | 0.62261 |
| C235 | 0.70526 | 0.13389 | 0.28348 |
| C236 | 0.71354 | 0.15891 | 0.16093 |
| C237 | 0.73984 | 0.19523 | 0.90095 |
| C238 | 0.74841 | 0.19523 | 0.90095 |
| C239 | 0.82578 | 0.2237 | 0.50403 |
| C240 | 0.80982 | 0.24105 | 0.51844 |
| C241 | 0.78455 | 0.23188 | 0.64679 |
| C242 | 0.83989 | 0.02764 | 0.70957 |
| C243 | 0.89552 | 0.087 | 0.32322 |
| C244 | 0.77457 | 0.20491 | 0.76835 |
| C245 | 0.82578 | 0.2237 | 0.50403 |
| C246 | 0.70186 | 0.18379 | 0.59622 |
| C247 | 0.67535 | 0.22122 | 0.63237 |
| C248 | 0.72719 | 0.27268 | 0.14491 |
| C249 | 0.66018 | 0.25763 | 0.80399 |
| H103 | 0.72158 | 0.31044 | 0.99298 |
| H104 | 0.93084 | 0.95982 | 0.08637 |
| H105 | 0.94876 | 0.92016 | 0.19384 |
| H106 | 0.9203 | 0.9952 | 0.90198 |
| H107 | 0.92927 | 0.05699 | 0.26928 |
| H108 | 0.88162 | 0.00591 | 0.74626 |
| H109 | 0.82563 | 0.02357 | 0.26965 |
| H110 | 0.74796 | 0.03272 | 0.49947 |
| H111 | 0.77868 | 0.005 | 0.48851 |
| H112 | 0.89737 | 0.17947 | 0.38283 |
| H113 | 0.6956 | 0.08504 | 0.51739 |
| Location | X Value | Y Value | Z Value |
|----------|---------|---------|---------|
| H119     | 0.72591 | 0.05704 | 0.5174  |
| H120     | 0.68517 | 0.12628 | 0.3836  |
| H121     | 0.70035 | 0.17163 | 0.16335 |
| H122     | 0.84536 | 0.23157 | 0.40041 |
| H123     | 0.83773 | 0.00856 | 0.61658 |
| H124     | 0.84656 | 0.04828 | 0.61724 |
| H125     | 0.83773 | 0.00856 | 0.61658 |
| H126     | 0.90452 | 0.11077 | 0.26402 |
| H127     | 0.90452 | 0.11077 | 0.26402 |
| H128     | 0.78437 | 0.24974 | 0.14194 |
| H129     | 0.76304 | 0.26103 | 0.30166 |
| H130     | 0.75376 | 0.22114 | 0.28812 |
| H131     | 0.69632 | 0.16104 | 0.65886 |
| H132     | 0.68222 | 0.18034 | 0.50179 |
| H133     | 0.72309 | 0.1915  | 0.50527 |
| N8       | 0.62632 | 0.39008 | 0.90806 |
| N9       | 0.90358 | 0.94105 | 0.08525 |
| C249     | 0.39719 | 0.54662 | 0.24618 |
| C250     | 0.37489 | 0.54141 | 0.09685 |
| C251     | 0.35949 | 0.55926 | 0.09209 |
| C252     | 0.36675 | 0.58335 | 0.2299  |
| C253     | 0.38895 | 0.58833 | 0.37867 |
| C254     | 0.40384 | 0.57003 | 0.38892 |
| C255     | 0.3513  | 0.60267 | 0.2173  |
| C256     | 0.36515 | 0.63309 | 0.27965 |
| N10      | 0.31755 | 0.63803 | 0.26335 |
| C257     | 0.30282 | 0.65552 | 0.2525  |
| C258     | 0.64628 | 0.34806 | 0.4094  |
| C259     | 0.6327  | 0.31455 | 0.41757 |
| C260     | 0.62621 | 0.36297 | 0.41325 |
| C261     | 0.59705 | 0.35995 | 0.32822 |
| C262     | 0.57618 | 0.36472 | 0.34145 |
| C263     | 0.57908 | 0.38538 | 0.49376 |
| C264     | 0.55888 | 0.39825 | 0.50344 |
| C265     | 0.5353  | 0.39075 | 0.35848 |
| C266     | 0.5319  | 0.36965 | 0.20675 |
| C267     | 0.55197 | 0.35661 | 0.20109 |
| C268     | 0.47923 | 0.36948 | 0.61289 |
| C269     | 0.48832 | 0.39584 | 0.4875  |
| C270     | 0.46992 | 0.41165 | 0.4902  |
| C271     | 0.44343 | 0.40127 | 0.62201 |
| C272     | 0.43548 | 0.37499 | 0.74168 |
| C273     | 0.45309 | 0.35916 | 0.7357  |
| C274     | 0.47801 | 0.43744 | 0.36001 |
|      |       |       |       |
|------|-------|-------|-------|
| C275 | 0.50418 | 0.44728 | 0.22942 |
| C276 | 0.52311 | 0.43197 | 0.23229 |
| C277 | 0.51518 | 0.40646 | 0.35953 |
| C278 | 0.55037 | 0.44361 | 0.10388 |
| C279 | 0.55741 | 0.46756 | 0.97508 |
| C280 | 0.53802 | 0.48225 | 0.96339 |
| C281 | 0.51181 | 0.47252 | 0.09482 |
| C282 | 0.42542 | 0.41817 | 0.6262  |
| C283 | 0.43369 | 0.44382 | 0.49465 |
| C284 | 0.45974 | 0.45346 | 0.35982 |
| C285 | 0.46758 | 0.47874 | 0.22828 |
| C286 | 0.49351 | 0.48827 | 0.09268 |
| C287 | 0.50143 | 0.51347 | 0.95844 |
| C288 | 0.52655 | 0.52139 | 0.82408 |
| C289 | 0.5445  | 0.50633 | 0.82663 |
| C290 | 0.41599 | 0.46023 | 0.49626 |
| C291 | 0.39001 | 0.45081 | 0.62903 |
| C292 | 0.3825  | 0.4256  | 0.75922 |
| C293 | 0.39981 | 0.40984 | 0.75759 |
| C294 | 0.42425 | 0.48607 | 0.36351 |
| C295 | 0.44482 | 0.49526 | 0.2309  |
| C296 | 0.45831 | 0.52133 | 0.10241 |
| C297 | 0.48405 | 0.5309  | 0.96588 |
| C298 | 0.3723  | 0.46736 | 0.6285  |
| C299 | 0.38043 | 0.49233 | 0.50582 |
| C300 | 0.40665 | 0.50279 | 0.37028 |
| C301 | 0.4151  | 0.52865 | 0.24511 |
| C302 | 0.44127 | 0.53843 | 0.11242 |
| C303 | 0.49254 | 0.55748 | 0.8482  |
| C304 | 0.47657 | 0.57481 | 0.86355 |
| C305 | 0.45125 | 0.56549 | 0.99169 |
| C306 | 0.50732 | 0.36192 | 0.04956 |
| C307 | 0.56303 | 0.42098 | 0.66387 |
| C308 | 0.4276  | 0.57586 | 0.54788 |
| C309 | 0.36848 | 0.51732 | 0.94066 |
| H137 | 0.34249 | 0.55524 | 0.97597 |
| H138 | 0.39435 | 0.60632 | 0.4895  |
| H139 | 0.3279  | 0.59214 | 0.14657 |
| H140 | 0.38954 | 0.64465 | 0.3353  |
| H141 | 0.59854 | 0.29341 | 0.4195  |
| H142 | 0.61622 | 0.25447 | 0.52178 |
| H143 | 0.58825 | 0.33    | 0.23661 |
| H144 | 0.59705 | 0.39133 | 0.60694 |
| H145 | 0.54936 | 0.34052 | 0.08324 |
| H146 | 0.41534 | 0.36634 | 0.84163 |
| H147 | 0.44618 | 0.33874 | 0.82966 |
| H148  | 0.56539 | 0.43283 | 0.11123 |
|-------|---------|---------|---------|
| H149  | 0.57809 | 0.47608 | 0.8792  |
| H150  | 0.53241 | 0.53991 | 0.71675 |
| H151  | 0.564   | 0.51325 | 0.72312 |
| H152  | 0.36287 | 0.41855 | 0.86202 |
| H153  | 0.39328 | 0.39064 | 0.86092 |
| H154  | 0.35228 | 0.45973 | 0.72918 |
| H155  | 0.3872  | 0.50501 | 0.50871 |
| H156  | 0.51214 | 0.56545 | 0.74467 |
| H157  | 0.48428 | 0.59576 | 0.77351 |
| H158  | 0.43897 | 0.57904 | 0.0023  |
| H159  | 0.48387 | 0.35492 | 0.11149 |
| H160  | 0.51382 | 0.38262 | 0.95812 |
| H161  | 0.50526 | 0.34298 | 0.95559 |
| H162  | 0.57977 | 0.42196 | 0.77367 |
| H163  | 0.57207 | 0.44481 | 0.6056  |
| H164  | 0.54027 | 0.41428 | 0.7349  |
| H165  | 0.45126 | 0.58348 | 0.48678 |
| H166  | 0.4295  | 0.59397 | 0.6485  |
| H167  | 0.42075 | 0.55427 | 0.63063 |
| H168  | 0.36324 | 0.49466 | 0.00342 |
| H169  | 0.3486  | 0.51368 | 0.84782 |
| H170  | 0.38954 | 0.52511 | 0.848   |
| N11   | 0.29388 | 0.72396 | 0.23732 |
| N12   | 0.57128 | 0.27557 | 0.41844 |
| C311  | 0.06351 | 0.87911 | 0.57301 |
| C312  | 0.04115 | 0.87363 | 0.42363 |
| C313  | 0.02532 | 0.8911  | 0.41921 |
| C314  | 0.03223 | 0.91507 | 0.55707 |
| C315  | 0.05457 | 0.92037 | 0.70558 |
| C316  | 0.06986 | 0.90244 | 0.7158  |
| C317  | 0.01627 | 0.93395 | 0.54474 |
| C318  | 0.02977 | 0.96433 | 0.60657 |
| N13   | 0.98198 | 0.96912 | 0.59107 |
| C319  | 0.96725 | 0.98663 | 0.58178 |
| C320  | 0.31132 | 0.67879 | 0.74489 |
| C321  | 0.29773 | 0.64528 | 0.75374 |
| C322  | 0.29145 | 0.69392 | 0.74671 |
| C323  | 0.26231 | 0.6821  | 0.66174 |
| C324  | 0.24199 | 0.69651 | 0.67213 |
| C325  | 0.2452  | 0.71754 | 0.82287 |
| C326  | 0.22538 | 0.73085 | 0.83063 |
| C327  | 0.20192 | 0.72349 | 0.68508 |
| C328  | 0.19833 | 0.70222 | 0.53423 |
| C329  | 0.21798 | 0.68867 | 0.53074 |
| C330  | 0.1459  | 0.70222 | 0.93849 |
| C331  | 0.15502 | 0.72865 | 0.81361 |
|    |    |    |    |
|----|----|----|----|
| C332 | 0.13661 | 0.74444 | 0.81649 |
| C333 | 0.11008 | 0.73398 | 0.94805 |
| C334 | 0.1021 | 0.70764 | 0.06725 |
| C335 | 0.11972 | 0.73392 | 0.68584 |
| C336 | 0.21709 | 0.7765 | 0.43028 |
| C337 | 0.22412 | 0.80047 | 0.30166 |
| C338 | 0.20475 | 0.81519 | 0.29035 |
| C339 | 0.17854 | 0.84637 | 0.2857 |
| C340 | 0.19326 | 0.85435 | 0.15146 |
| C341 | 0.21123 | 0.83544 | 0.69709 |
| C342 | 0.12643 | 0.78626 | 0.68661 |
| C343 | 0.16022 | 0.82116 | 0.41984 |
| C344 | 0.1681 | 0.84637 | 0.2857 |
| C345 | 0.19326 | 0.85435 | 0.15146 |
| C346 | 0.21123 | 0.83544 | 0.69709 |
| C347 | 0.08259 | 0.79291 | 0.82283 |
| C348 | 0.05655 | 0.78339 | 0.9555 |
| C349 | 0.04904 | 0.75815 | 0.98517 |
| C350 | 0.0664 | 0.74245 | 0.08358 |
| C351 | 0.09085 | 0.8188 | 0.69222 |
| C352 | 0.11647 | 0.82806 | 0.55807 |
| C353 | 0.12492 | 0.85414 | 0.42965 |
| C354 | 0.13428 | 0.81159 | 0.55535 |
| C355 | 0.16022 | 0.82116 | 0.41984 |
| C356 | 0.1681 | 0.84637 | 0.2857 |
| C357 | 0.19326 | 0.85435 | 0.15146 |
| C358 | 0.21123 | 0.83544 | 0.69709 |
| C359 | 0.08259 | 0.79291 | 0.82283 |
| C360 | 0.05655 | 0.78339 | 0.9555 |
| C361 | 0.04904 | 0.75815 | 0.98517 |
| C362 | 0.0664 | 0.74245 | 0.08358 |
| C363 | 0.09085 | 0.8188 | 0.69222 |
| C364 | 0.11647 | 0.82806 | 0.55807 |
| C365 | 0.12492 | 0.85414 | 0.42965 |
| C366 | 0.13428 | 0.81159 | 0.55535 |
| C367 | 0.16022 | 0.82116 | 0.41984 |
| C368 | 0.1681 | 0.84637 | 0.2857 |
| C369 | 0.19326 | 0.85435 | 0.15146 |
| C370 | 0.21123 | 0.83544 | 0.69709 |
| C371 | 0.08259 | 0.79291 | 0.82283 |
| C372 | 0.05655 | 0.78339 | 0.9555 |
| H171 | 0.09367 | 0.90853 | 0.87497 |
| H172 | 0.03512 | 0.8497 | 0.26707 |
| H173 | 0.14294 | 0.90747 | 0.18988 |
| H174 | 0.11767 | 0.89816 | 0.31842 |
| H175 | 0.17397 | 0.69471 | 0.37596 |
| H176 | 0.2297 | 0.75379 | 0.99007 |

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|      |      |      |      |
|------|------|------|------|
| H177 | 0.26307 | 0.72337 | 0.93661 |
| H178 | 0.21517 | 0.67237 | 0.41382 |
| H179 | 0.19582 | 0.69026 | 0.93604 |
| H180 | 0.08192 | 0.69893 | 0.16696 |
| H181 | 0.11279 | 0.67136 | 0.43737 |
| H182 | 0.08192 | 0.68777 | 0.15463 |
| H183 | 0.05987 | 0.72322 | 0.93661 |
| H184 | 0.01866 | 0.79213 | 0.05461 |
| H185 | 0.03357 | 0.83745 | 0.83457 |
| H186 | 0.17858 | 0.92834 | 0.09927 |
| H187 | 0.15053 | 0.91163 | 0.32886 |
| H188 | 0.15047 | 0.68777 | 0.43684 |
| H189 | 0.18069 | 0.7155  | 0.28492 |
| H190 | 0.1719  | 0.67579 | 0.28183 |
| H191 | 0.2467  | 0.75505 | 0.09993 |
| H192 | 0.23847 | 0.7775  | 0.93057 |
| H193 | 0.20704 | 0.74705 | 0.06257 |
| H194 | 0.11739 | 0.91642 | 0.81408 |
| H195 | 0.09531 | 0.92651 | 0.09756 |
| H196 | 0.08704 | 0.88697 | 0.95758 |
| H197 | 0.02983 | 0.82701 | 0.32944 |
| H198 | 0.01539 | 0.84607 | 0.17287 |
| H199 | 0.05636 | 0.85764 | 0.17588 |
| N14  | 0.95869 | 0.05542 | 0.57025 |
| N15  | 0.23626 | 0.60653 | 0.75892 |
| C373 | 0.78869 | 0.52489 | 0.86235 |
| C374 | 0.79393 | 0.5083  | 0.71162 |
| C375 | 0.77591 | 0.47524 | 0.70652 |
| C376 | 0.75197 | 0.45824 | 0.84618 |
| C377 | 0.74695 | 0.47507 | 0.89591 |
| C378 | 0.76519 | 0.50808 | 0.00585 |
| C379 | 0.73352 | 0.42367 | 0.83449 |
| C380 | 0.70503 | 0.40541 | 0.92359 |
| C381 | 0.70134 | 0.35184 | 0.92009 |
| C382 | 0.68188 | 0.31821 | 0.92494 |
| C383 | 0.98521 | 0.96685 | 0.094  |
| C384 | 0.01861 | 0.98794 | 0.09286 |
| C385 | 0.97121 | 0.93246 | 0.11205 |
| C386 | 0.98342 | 0.91565 | 0.0283 |
| C387 | 0.96957 | 0.88135 | 0.04605 |
| C388 | 0.94835 | 0.8639  | 0.19782 |
| C389 | 0.9351  | 0.83107 | 0.20975 |
|     |        |        |        |
|-----|--------|--------|--------|
| C390| 0.94269| 0.81505| 0.06657|
| C391| 0.96422| 0.83233| 0.91494|
| C392| 0.97778| 0.86524| 0.09806|
| C393| 0.96264| 0.77935| 0.31941|
| C394| 0.93681| 0.76285| 0.18708|
| C395| 0.9214 | 0.72895| 0.17669|
| C396| 0.93193| 0.72895| 0.30094|
| C397| 0.97778| 0.86524| 0.90806|
| C398| 0.96264| 0.77935| 0.31941|
| C399| 0.9214 | 0.72895| 0.18708|
| C400| 0.88583| 0.72908| 0.91851|
| C401| 0.90073| 0.76292| 0.93429|
| C402| 0.92267| 0.77935| 0.06472|
| C403| 0.88882| 0.77919| 0.81526|
| C404| 0.86491| 0.76324| 0.68291|
| C405| 0.85092| 0.72967| 0.6562 |
| C406| 0.86099| 0.71256| 0.77811|
| C407| 0.9158 | 0.67767| 0.28929|
| C408| 0.89063| 0.66129| 0.15133|
| C409| 0.88069| 0.67831| 0.02524|
| C410| 0.85586| 0.66189| 0.88739|
| C411| 0.84606| 0.67892| 0.76042|
| C412| 0.82144| 0.66268| 0.61922|
| C413| 0.81315| 0.68058| 0.49488|
| C414| 0.82732| 0.71319| 0.51325|
| C415| 0.87492| 0.6275 | 0.1379 |
| C416| 0.88464| 0.61027| 0.26144|
| C417| 0.90948| 0.62697| 0.39723|
| C418| 0.92449| 0.65974| 0.41086|
| C419| 0.84938| 0.61093| 0.00161|
| C420| 0.83995| 0.62793| 0.87554|
| C421| 0.81432| 0.61128| 0.74056|
| C422| 0.80484| 0.6281 | 0.61037|
| C423| 0.8868 | 0.57632| 0.24572|
| C424| 0.84372| 0.56038| 0.11983|
| C425| 0.83297| 0.5769 | 0.99411|
| C426| 0.80708| 0.56043| 0.8659 |
| C427| 0.7975 | 0.57732| 0.73807|
| C428| 0.77908| 0.61077| 0.48321|
| C429| 0.76221| 0.57753| 0.48468|
| C430| 0.77106| 0.56094| 0.6095|
| C431| 0.97163| 0.8153 | 0.75868|
| C432| 0.91191| 0.81255| 0.36945|
| C433| 0.75946| 0.52579| 0.16543|
| C434| 0.81828| 0.52623| 0.55597|
| H205| 0.78009| 0.46249| 0.59075|
| H206| 0.72889| 0.4823 | 0.10702|
|       |       |       |       |
|-------|-------|-------|-------|
| H207  | 0.74341 | 0.41259 | 0.74103 |
| H208  | 0.69364 | 0.41661 | 0.00203 |
| C435  | 0.73568 | 0.36592 | 0.92292 |
| C436  | 0.04094 | 0.9765  | 0.10473 |
| H209  | 0.07946 | 0.033   | 0.14839 |
| H210  | 0.00414 | 0.92767 | 0.93256 |
| H211  | 0.94216 | 0.876   | 0.30803 |
| H212  | 0.99431 | 0.8785  | 0.791   |
| H213  | 0.97419 | 0.80502 | 0.3272  |
| H214  | 0.96627 | 0.71766 | 0.52349 |
| H215  | 0.99278 | 0.77591 | 0.53673 |
| H216  | 0.89926 | 0.80465 | 0.83315 |
| H217  | 0.85603 | 0.77581 | 0.59494 |
| H218  | 0.795   | 0.66867 | 0.3831  |
| H219  | 0.82012 | 0.72631 | 0.41731 |
| H220  | 0.91677 | 0.61386 | 0.49268 |
| H221  | 0.94338 | 0.67166 | 0.51838 |
| H222  | 0.87668 | 0.56342 | 0.33823 |
| H223  | 0.83133 | 0.53466 | 0.11203 |
| H224  | 0.77138 | 0.62291 | 0.38291 |
| H225  | 0.74191 | 0.56482 | 0.38712 |
| H226  | 0.75775 | 0.53518 | 0.61076 |
| H227  | 0.97865 | 0.79912 | 0.82132 |
| H228  | 0.95051 | 0.80966 | 0.66882 |
| H229  | 0.99068 | 0.83195 | 0.66316 |
| H230  | 0.90989 | 0.82816 | 0.47465 |
| H231  | 0.88818 | 0.79672 | 0.30952 |
| H232  | 0.9193  | 0.7977  | 0.44669 |
| H233  | 0.75228 | 0.54201 | 0.1049  |
| H234  | 0.74084 | 0.50964 | 0.26484 |
| H235  | 0.78122 | 0.54015 | 0.2498  |
| H236  | 0.84138 | 0.54307 | 0.61942 |
| H237  | 0.82144 | 0.51025 | 0.45969 |
| H238  | 0.81084 | 0.54002 | 0.46711 |
| N16   | 0.0595  | 0.96808 | 0.11212 |
| C437  | 0.45644 | 0.85917 | 0.17997 |
| C438  | 0.46172 | 0.84224 | 0.03173 |
| C439  | 0.44388 | 0.80914 | 0.03064 |
| C440  | 0.41997 | 0.79246 | 0.1711  |
| C441  | 0.41485 | 0.80966 | 0.31788 |
| C442  | 0.43299 | 0.84269 | 0.32435 |
| C443  | 0.40159 | 0.75785 | 0.16326 |
| C444  | 0.37299 | 0.73978 | 0.25169 |
| C445  | 0.3694  | 0.68624 | 0.25558 |
| C446  | 0.34999 | 0.65264 | 0.26449 |
| C447  | 0.65286 | 0.30121 | 0.42529 |
| C448  | 0.68628 | 0.32225 | 0.42436 |
|   |   |   |   |
|---|---|---|---|
| C449 | 0.63873 | 0.26678 | 0.44165 |
| C450 | 0.65082 | 0.24992 | 0.35709 |
| C451 | 0.63672 | 0.21557 | 0.37311 |
| C452 | 0.61524 | 0.19799 | 0.52356 |
| C453 | 0.60177 | 0.16658 | 0.23459 |
| C454 | 0.60943 | 0.1492 | 0.64257 |
| C455 | 0.63117 | 0.1135 | 0.49819 |
| C456 | 0.63672 | 0.09701 | 0.50957 |
| C457 | 0.64493 | 0.06313 | 0.62217 |
| C458 | 0.6245 | 0.06399 | 0.75033 |
| C459 | 0.63959 | 0.04643 | 0.36106 |
| C460 | 0.5528 | 0.06327 | 0.23973 |
| C461 | 0.56756 | 0.06970 | 0.25653 |
| C462 | 0.59301 | 0.11369 | 0.38747 |
| C463 | 0.55557 | 0.11334 | 0.13802 |
| C464 | 0.53171 | 0.09741 | 0.00534 |
| C465 | 0.5179 | 0.06388 | 0.97749 |
| C466 | 0.52806 | 0.04678 | 0.09875 |
| C467 | 0.58293 | 0.01187 | 0.60949 |
| C468 | 0.55791 | 0.09552 | 0.47057 |
| C469 | 0.54793 | 0.01254 | 0.3448 |
| C470 | 0.5232 | 0.09614 | 0.20624 |
| C471 | 0.51331 | 0.01317 | 0.07988 |
| C472 | 0.48878 | 0.09694 | 0.9382 |
| C473 | 0.4804 | 0.01485 | 0.81449 |
| C474 | 0.49439 | 0.04743 | 0.83399 |
| C475 | 0.54238 | 0.096176 | 0.456 |
| C476 | 0.5521 | 0.094452 | 0.57956 |
| C477 | 0.57675 | 0.01162 | 0.71645 |
| C478 | 0.59161 | 0.09395 | 0.73106 |
| C479 | 0.51699 | 0.094521 | 0.31875 |
| C480 | 0.50748 | 0.09622 | 0.19315 |
| C481 | 0.48193 | 0.94555 | 0.05775 |
| C482 | 0.47232 | 0.96237 | 0.02638 |
| C483 | 0.53633 | 0.9106 | 0.56271 |
| C484 | 0.51151 | 0.09468 | 0.43575 |
| C485 | 0.50073 | 0.091119 | 0.31028 |
| C486 | 0.47488 | 0.09471 | 0.18182 |
| C487 | 0.46233 | 0.091159 | 0.05446 |
| C488 | 0.44654 | 0.94503 | 0.08135 |
| C489 | 0.42978 | 0.91179 | 0.08215 |
| C490 | 0.43877 | 0.8952 | 0.92606 |
| C491 | 0.63862 | 0.14964 | 0.08317 |
|   |       |       |       |
|---|-------|-------|-------|
| C496 | 0.57841 | 0.14645 | 0.69226 |
| C497 | 0.42729 | 0.86079 | 0.48147 |
| C498 | 0.48595 | 0.85982 | 0.87471 |
| H239 | 0.44825 | 0.79717 | 0.42947 |
| H240 | 0.41167 | 0.74656 | 0.07331 |
| H242 | 0.36147 | 0.7512  | 0.32633 |
| C499 | 0.40373 | 0.70029 | 0.25748 |
| C500 | 0.70857 | 0.31075 | 0.43403 |
| H243 | 0.74717 | 0.36719 | 0.48193 |
| H244 | 0.67162 | 0.26193 | 0.26192 |
| H245 | 0.60901 | 0.21001 | 0.63405 |
| H246 | 0.66163 | 0.21288 | 0.11849 |
| H247 | 0.64076 | 0.13916 | 0.06507 |
| H248 | 0.63318 | 0.05204 | 0.8452  |
| H249 | 0.65943 | 0.11006 | 0.86014 |
| H250 | 0.56589 | 0.13877 | 0.15673 |
| H251 | 0.52275 | 0.10996 | 0.91789 |
| H252 | 0.46231 | 0.00305 | 0.70231 |
| H253 | 0.48712 | 0.06055 | 0.73851 |
| H254 | 0.58403 | 0.94809 | 0.81201 |
| H255 | 0.61037 | 0.00564 | 0.8394  |
| H256 | 0.5443  | 0.8977  | 0.65516 |
| H257 | 0.49926 | 0.86898 | 0.42694 |
| H258 | 0.43872 | 0.95716 | 0.70179 |
| H259 | 0.40945 | 0.89908 | 0.70481 |
| H260 | 0.42555 | 0.86944 | 0.9269  |
| H261 | 0.64561 | 0.1334  | 0.14552 |
| H262 | 0.61753 | 0.13534 | 0.99303 |
| H263 | 0.65771 | 0.16632 | 0.98803 |
| H264 | 0.57512 | 0.16187 | 0.79266 |
| H265 | 0.55516 | 0.12953 | 0.63069 |
| H266 | 0.58655 | 0.13272 | 0.77549 |
| H267 | 0.42103 | 0.87754 | 0.41856 |
| H268 | 0.40809 | 0.84944 | 0.57865 |
| H269 | 0.44884 | 0.87463 | 0.5688 |
| H270 | 0.50911 | 0.87678 | 0.93679 |
| H271 | 0.46901 | 0.84364 | 0.77968 |
| H272 | 0.47841 | 0.87342 | 0.78469 |
| N17  | 0.72709 | 0.30225 | 0.43908 |
| C501 | 0.12091 | 0.19037 | 0.52392 |
| C502 | 0.12602 | 0.17374 | 0.3729  |
| C503 | 0.108   | 0.14068 | 0.36822 |
| C504 | 0.08417 | 0.12372 | 0.50853 |
| C505 | 0.07921 | 0.1406  | 0.65822 |
| C506 | 0.09746 | 0.17361 | 0.6678  |
| C507 | 0.0658  | 0.08913 | 0.4977  |
|   |   |   |   |
|---|---|---|---|
| C508 | 0.03735 | 0.07087 | 0.58712 |
| C509 | 0.03383 | 0.01736 | 0.58643 |
| C510 | 0.01442 | 0.98374 | 0.59291 |
| C511 | 0.31792 | 0.63194 | 0.76129 |
| C512 | 0.35133 | 0.52903 | 0.85974 |
| C513 | 0.26901 | 0.49621 | 0.86963 |
| C514 | 0.27669 | 0.48052 | 0.72470 |
| C515 | 0.29811 | 0.49810 | 0.57331 |
| C516 | 0.31146 | 0.53100 | 0.56839 |
| C517 | 0.29679 | 0.44464 | 0.97451 |
| C518 | 0.27086 | 0.42823 | 0.84274 |
| C519 | 0.25526 | 0.39431 | 0.83261 |
| C520 | 0.26572 | 0.37754 | 0.95651 |
| C521 | 0.29152 | 0.39500 | 0.08350 |
| C522 | 0.30691 | 0.42821 | 0.09165 |
| C523 | 0.22970 | 0.37767 | 0.69727 |
| C524 | 0.21951 | 0.39463 | 0.57622 |
| C525 | 0.23462 | 0.42849 | 0.59180 |
| C526 | 0.26032 | 0.44501 | 0.72123 |
| C527 | 0.22267 | 0.44484 | 0.47402 |
| C528 | 0.19853 | 0.42897 | 0.34293 |
| C529 | 0.18432 | 0.39537 | 0.31639 |
| C530 | 0.19442 | 0.37818 | 0.43721 |
| C531 | 0.24935 | 0.34292 | 0.94544 |
| C532 | 0.22396 | 0.32662 | 0.80871 |
| C533 | 0.21408 | 0.34374 | 0.68298 |
| C534 | 0.18902 | 0.32739 | 0.54638 |
| C535 | 0.17924 | 0.34451 | 0.42001 |
| C536 | 0.15440 | 0.32833 | 0.28007 |
| C537 | 0.14607 | 0.34632 | 0.15669 |
| C538 | 0.16045 | 0.37895 | 0.17480 |
| C539 | 0.20793 | 0.29280 | 0.79632 |
| C540 | 0.21755 | 0.27546 | 0.91970 |
| C541 | 0.24264 | 0.29210 | 0.05407 |
| C542 | 0.25796 | 0.32490 | 0.06664 |
| C543 | 0.18217 | 0.27631 | 0.66127 |
| C544 | 0.17282 | 0.29341 | 0.53540 |
| C545 | 0.14702 | 0.27684 | 0.40145 |
| C546 | 0.13759 | 0.29375 | 0.27155 |
| C547 | 0.20124 | 0.24149 | 0.90532 |
| C548 | 0.17608 | 0.22564 | 0.78050 |
| C549 | 0.16547 | 0.24227 | 0.65471 |
| C550 | 0.13945 | 0.22590 | 0.52726 |
|   |   |   |   |
|---|---|---|---|
| C555 | 0.12998 | 0.24288 | 0.39953 |
| C556 | 0.11173 | 0.27649 | 0.14493 |
| C557 | 0.09469 | 0.24326 | 0.14674 |
| C558 | 0.10344 | 0.22659 | 0.27156 |
| C559 | 0.30557 | 0.48139 | 0.41505 |
| C560 | 0.24581 | 0.47738 | 0.02855 |
| C561 | 0.09173 | 0.19137 | 0.82714 |
| C562 | 0.15025 | 0.19162 | 0.21651 |
| H273 | 0.11211 | 0.1279 | 0.25235 |
| H274 | 0.06122 | 0.12787 | 0.76973 |
| H275 | 0.07575 | 0.07804 | 0.40486 |
| H276 | 0.02591 | 0.08208 | 0.66494 |
| C563 | 0.06818 | 0.03153 | 0.58924 |
| C564 | 0.37371 | 0.64162 | 0.77203 |
| H277 | 0.41217 | 0.69806 | 0.82178 |
| H278 | 0.33731 | 0.59339 | 0.59679 |
| H279 | 0.27578 | 0.54088 | 0.97119 |
| H280 | 0.32787 | 0.54451 | 0.45138 |
| H281 | 0.30845 | 0.47032 | 0.98221 |
| H282 | 0.30009 | 0.38266 | 0.17846 |
| H283 | 0.32687 | 0.44105 | 0.19154 |
| H284 | 0.23325 | 0.47032 | 0.49186 |
| H285 | 0.18963 | 0.44161 | 0.25588 |
| H286 | 0.12771 | 0.33454 | 0.04598 |
| H287 | 0.1532 | 0.39214 | 0.07973 |
| H288 | 0.24987 | 0.2791 | 0.14927 |
| H289 | 0.27705 | 0.33676 | 0.17308 |
| H290 | 0.20909 | 0.2285 | 0.99796 |
| H291 | 0.16343 | 0.19991 | 0.77366 |
| H292 | 0.1041 | 0.2887 | 0.04472 |
| H293 | 0.07433 | 0.23062 | 0.04948 |
| H294 | 0.08999 | 0.20983 | 0.27318 |
| H295 | 0.31257 | 0.46507 | 0.47574 |
| H296 | 0.28448 | 0.46725 | 0.32458 |
| H297 | 0.32465 | 0.49823 | 0.32044 |
| H298 | 0.2444 | 0.4928 | 0.13794 |
| H299 | 0.22188 | 0.46232 | 0.96871 |
| H300 | 0.25268 | 0.46172 | 0.1006 |
| H301 | 0.08357 | 0.20682 | 0.76665 |
| H302 | 0.0738 | 0.17521 | 0.92992 |
| H303 | 0.11371 | 0.20652 | 0.90762 |
| H304 | 0.17334 | 0.20863 | 0.2792 |
| H305 | 0.15346 | 0.17562 | 0.1207 |
| H306 | 0.14262 | 0.20521 | 0.12713 |
| N18 | 0.39243 | 0.63338 | 0.77893 |
Table S5. Atomistic coordinates for the AA-stacking mode of DBOV-COF optimized by using DFTB+ method. Space group: $P1$; $a = 49.4657$ Å, $b = 49.3679$ Å, $c = 10.8061$ Å, $\alpha = 89.4727^\circ$, $\beta = 89.6700^\circ$, and $\gamma = 59.3102^\circ$.

| Atom | X | Y | Z |
|------|---|---|---|
| C1   | 0.61165 | 0.59185 | 0.91547 |
| C2   | 0.64455 | 0.57284 | 0.93287 |
| C3   | 0.66343 | 0.58706 | 0.93377 |
| C4   | 0.61939 | 0.63734 | 0.90618 |
| C5   | 0.59925 | 0.62463 | 0.89795 |
| C6   | 0.56637 | 0.64441 | 0.86789 |
| C7   | 0.65972 | 0.53901 | 0.94329 |
| N1   | 0.54036 | 0.65949 | 0.83978 |
| N2   | 0.67271 | 0.51195 | 0.94977 |
| C8   | 0.59053 | 0.57913 | 0.91124 |
| H1   | 0.57079 | 0.59081 | 0.84542 |
| C9   | 0.60781 | 0.67127 | 0.89347 |
| H2   | 0.62408 | 0.67727 | 0.84768 |
| C10  | 0.69768 | 0.56741 | 0.94348 |
| H3   | 0.70792 | 0.54221 | 0.92272 |
| N3   | 0.65058 | 0.61846 | 0.92236 |
| C11  | 0.5931 | 0.55572 | 0.9864 |
| H4   | 0.61181 | 0.54572 | 0.05703 |
| C12  | 0.71685 | 0.57822 | 0.97739 |
| H5   | 0.70646 | 0.60296 | 0.00648 |
| C13  | 0.58002 | 0.6942 | 0.94033 |
| H6   | 0.56565 | 0.68725 | 0.99546 |
| C14  | 0.57269 | 0.5423 | 0.98473 |
| C15  | 0.57762 | 0.51908 | 0.07323 |
| C16  | 0.54861 | 0.55089 | 0.89714 |
| C17  | 0.55946 | 0.50466 | 0.07533 |
| H7   | 0.5962 | 0.51209 | 0.14309 |
| C18  | 0.53004 | 0.53693 | 0.89703 |
| H8   | 0.54417 | 0.56872 | 0.82566 |
| C19  | 0.53518 | 0.51343 | 0.98654 |
| C20  | 0.75122 | 0.55611 | 0.98058 |
| C21  | 0.7693 | 0.56312 | 0.0675 |
| C22  | 0.76713 | 0.53338 | 0.89572 |
| C23  | 0.80213 | 0.54359 | 0.0729 |
| H9   | 0.75738 | 0.58218 | 0.1354 |
| C24  | 0.79992 | 0.51391 | 0.89714 |
| H10  | 0.75377 | 0.52955 | 0.82381 |
| C25  | 0.81804 | 0.51857 | 0.98699 |
| C26  | 0.56713 | 0.72822 | 0.92981 |
| C27  | 0.57663 | 0.74226 | 0.83986 |
| C28  | 0.54327 | 0.74816 | 0.01274 |
| C29  | 0.56311 | 0.77505 | 0.8307 |
| H11  | 0.59459 | 0.72745 | 0.77007 |
| C30  | 0.52966 | 0.78097 | 0.00826 |
| H12  | 0.5355 | 0.73769 | 0.08479 |
|   |   |   |   |
|---|---|---|---|
| C31 | 0.53948 | 0.79501 | 0.91658 |
| C32 | 0.50536 | 0.54756 | 0.79288 |
| H13 | 0.48315 | 0.56855 | 0.82691 |
| H14 | 0.51304 | 0.55424 | 0.7137 |
| H15 | 0.49993 | 0.52929 | 0.77408 |
| C33 | 0.56675 | 0.48034 | 0.17438 |
| H16 | 0.58574 | 0.45682 | 0.14568 |
| H17 | 0.57499 | 0.48615 | 0.2587 |
| H18 | 0.54635 | 0.4782 | 0.19003 |
| C34 | 0.81909 | 0.55014 | 0.17245 |
| H19 | 0.82466 | 0.56819 | 0.14303 |
| H20 | 0.8044 | 0.55923 | 0.25573 |
| H21 | 0.84133 | 0.52907 | 0.19917 |
| C35 | 0.81435 | 0.48895 | 0.7997 |
| H22 | 0.81467 | 0.46731 | 0.82844 |
| H23 | 0.80048 | 0.49714 | 0.7142 |
| H24 | 0.83863 | 0.48234 | 0.7774 |
| C36 | 0.50524 | 0.79975 | 0.10421 |
| H25 | 0.48165 | 0.80516 | 0.0752 |
| H26 | 0.51046 | 0.78627 | 0.19106 |
| H27 | 0.50374 | 0.82224 | 0.12451 |
| C37 | 0.57436 | 0.78772 | 0.72841 |
| H28 | 0.59539 | 0.7865 | 0.77589 |
| H29 | 0.58107 | 0.77255 | 0.64665 |
| H30 | 0.55646 | 0.81168 | 0.69987 |
| C38 | 0.52897 | 0.46569 | 0.96603 |
| C39 | 0.482 | 0.51732 | 0.00831 |
| C40 | 0.50997 | 0.45129 | 0.97309 |
| C41 | 0.56199 | 0.44547 | 0.93876 |
| C42 | 0.4625 | 0.50359 | 0.00001 |
| C43 | 0.46723 | 0.54992 | 0.03757 |
| C44 | 0.52438 | 0.41771 | 0.9672 |
| C45 | 0.4768 | 0.47031 | 0.98628 |
| C46 | 0.57563 | 0.41348 | 0.93071 |
| H31 | 0.57678 | 0.45595 | 0.92443 |
| C47 | 0.42891 | 0.52305 | 0.00877 |
| C48 | 0.43492 | 0.56819 | 0.05174 |
| H32 | 0.48145 | 0.56103 | 0.0499 |
| C49 | 0.50578 | 0.40322 | 0.98152 |
| C50 | 0.55751 | 0.39647 | 0.94905 |
| C51 | 0.45781 | 0.45592 | 0.98727 |
| H33 | 0.60096 | 0.39889 | 0.91084 |
| C52 | 0.4095 | 0.50865 | 0.99095 |
| C53 | 0.41573 | 0.55519 | 0.03512 |
| H34 | 0.4241 | 0.59328 | 0.07501 |
| C54 | 0.5205 | 0.36974 | 0.9873 |
| C55 | 0.47219 | 0.42268 | 0.9876 |
|   |     |     |     |
|---|-----|-----|-----|
| C56 | 0.5714 | 0.36536 | 0.94799 |
| C57 | 0.42419 | 0.47539 | 0.98574 |
| C58 | 0.37642 | 0.5272 | 0.97781 |
| H35 | 0.39017 | 0.57075 | 0.04575 |
| C59 | 0.50128 | 0.35551 | 0.01132 |
| C60 | 0.55342 | 0.35143 | 0.96884 |
| C61 | 0.45322 | 0.40827 | 0.99167 |
| H36 | 0.59687 | 0.35032 | 0.93205 |
| C62 | 0.40551 | 0.46091 | 0.97638 |
| C63 | 0.3583 | 0.51333 | 0.96191 |
| H37 | 0.36434 | 0.55309 | 0.97762 |
| C64 | 0.46763 | 0.37497 | 0.00673 |
| C65 | 0.51468 | 0.32336 | 0.04012 |
| H38 | 0.56546 | 0.32554 | 0.9684 |
| C66 | 0.41996 | 0.42731 | 0.98265 |
| C67 | 0.37224 | 0.48021 | 0.96275 |
| H39 | 0.33269 | 0.52842 | 0.94986 |
| C68 | 0.44821 | 0.36123 | 0.0208 |
| C69 | 0.49561 | 0.31041 | 0.06337 |
| H40 | 0.54031 | 0.30779 | 0.04785 |
| C70 | 0.40096 | 0.41287 | 0.97988 |
| C71 | 0.35406 | 0.46521 | 0.94803 |
| C72 | 0.4632 | 0.32866 | 0.05289 |
| H41 | 0.50661 | 0.28535 | 0.08897 |
| C73 | 0.3678 | 0.43317 | 0.95558 |
| H42 | 0.32859 | 0.47987 | 0.93109 |
| H43 | 0.44909 | 0.31757 | 0.07037 |
| H44 | 0.35295 | 0.42274 | 0.94341 |
| C74 | 0.49286 | 0.85055 | 0.89087 |
| C75 | 0.54515 | 0.84328 | 0.93114 |
| C76 | 0.47937 | 0.88416 | 0.89654 |
| C77 | 0.47184 | 0.83904 | 0.86578 |
| C78 | 0.53235 | 0.87666 | 0.91987 |
| C79 | 0.57761 | 0.82407 | 0.96156 |
| C80 | 0.44593 | 0.90476 | 0.89247 |
| C81 | 0.49918 | 0.89707 | 0.90734 |
| C82 | 0.43999 | 0.85876 | 0.85862 |
| H45 | 0.48159 | 0.81365 | 0.85254 |
| C83 | 0.5526 | 0.88955 | 0.92537 |
| C84 | 0.59669 | 0.83692 | 0.97195 |
| H46 | 0.58794 | 0.79665 | 0.97772 |
| C85 | 0.43238 | 0.93801 | 0.90722 |
| C86 | 0.42591 | 0.89211 | 0.87839 |
| C87 | 0.48567 | 0.93067 | 0.90838 |
| H47 | 0.42478 | 0.84897 | 0.84044 |
| C88 | 0.53918 | 0.92342 | 0.90624 |
| C89 | 0.58464 | 0.86922 | 0.9512 |
|   |   |   |   |
|---|---|---|---|
| H48 | 0.62167 | 0.82162 | 0.99579 |
| C90 | 0.3991 | 0.95812 | 0.91556 |
| C91 | 0.4526 | 0.9509 | 0.91159 |
| C92 | 0.39297 | 0.91272 | 0.87727 |
| C93 | 0.50585 | 0.94363 | 0.90458 |
| C94 | 0.55815 | 0.93705 | 0.88996 |
| H49 | 0.60083 | 0.87822 | 0.95891 |
| C95 | 0.38591 | 0.99164 | 0.94094 |
| C96 | 0.37999 | 0.94474 | 0.89858 |
| C97 | 0.43912 | 0.98446 | 0.9175 |
| H50 | 0.37731 | 0.90328 | 0.86274 |
| C98 | 0.4922 | 0.97707 | 0.897 |
| C99 | 0.54499 | 0.96938 | 0.87524 |
| H51 | 0.58391 | 0.9221 | 0.85668 |
| C100 | 0.40609 | 0.00462 | 0.93565 |
| C101 | 0.3541 | 0.01156 | 0.97182 |
| H52 | 0.3542 | 0.95968 | 0.89997 |
| C102 | 0.45884 | 0.99754 | 0.90742 |
| C103 | 0.51209 | 0.98997 | 0.88132 |
| H53 | 0.56049 | 0.97909 | 0.86079 |
| C104 | 0.39336 | 0.03784 | 0.95161 |
| C105 | 0.34217 | 0.04358 | 0.99669 |
| H54 | 0.338 | 0.00243 | 0.97981 |
| C106 | 0.44534 | 0.03119 | 0.90763 |
| C107 | 0.4979 | 0.02356 | 0.87074 |
| C108 | 0.36112 | 0.05662 | 0.98593 |
| H55 | 0.31736 | 0.05853 | 0.0237 |
| C109 | 0.46614 | 0.0431 | 0.88341 |
| H56 | 0.51294 | 0.03366 | 0.85326 |
| H57 | 0.35085 | 0.08187 | 0.00456 |
| H58 | 0.45632 | 0.06868 | 0.87503 |
| C110 | 0.39506 | 0.3649 | 0.00563 |
| C111 | 0.37087 | 0.37373 | 0.09546 |
| C112 | 0.40014 | 0.34126 | 0.91851 |
| C113 | 0.3526 | 0.35942 | 0.09607 |
| C114 | 0.36374 | 0.39802 | 0.19281 |
| C115 | 0.38164 | 0.32722 | 0.92213 |
| C116 | 0.42462 | 0.33065 | 0.81848 |
| C117 | 0.35752 | 0.33598 | 0.01034 |
| H59 | 0.334 | 0.36661 | 0.16636 |
| H60 | 0.34445 | 0.42147 | 0.16413 |
| H61 | 0.356 | 0.39197 | 0.27876 |
| H62 | 0.38408 | 0.4004 | 0.21457 |
| H63 | 0.38584 | 0.30946 | 0.85187 |
| H64 | 0.44699 | 0.30986 | 0.8476 |
| H65 | 0.41691 | 0.32371 | 0.73569 |
| H66 | 0.4298 | 0.34901 | 0.79116 |
|   |   |   |   |
|---|---|---|---|
| C118 | 0.33655 | 0.32318 | 0.01307 |
| C119 | 0.34085 | 0.29731 | 0.95214 |
| H67  | 0.31551 | 0.33622 | 0.07185 |
| C120  | 0.31827 | 0.28627 | 0.95092 |
| H68  | 0.32939 | 0.28224 | 0.90147 |
| C121 | 0.28503 | 0.30712 | 0.95171 |
| N4   | 0.33075 | 0.25487 | 0.94273 |
| C122 | 0.26468 | 0.29477 | 0.95071 |
| C123 | 0.27117 | 0.34089 | 0.94884 |
| C124 | 0.31213 | 0.24238 | 0.93693 |
| C125 | 0.27874 | 0.26169 | 0.94194 |
| C126 | 0.23044 | 0.31617 | 0.95334 |
| N5   | 0.25921 | 0.36788 | 0.9424  |
| C127 | 0.32678 | 0.20821 | 0.92435 |
| C128 | 0.25975 | 0.2473  | 0.93137 |
| H69  | 0.22159 | 0.33821 | 0.89962 |
| C129 | 0.21023 | 0.3109  | 0.02024 |
| H70  | 0.3113  | 0.19952 | 0.89454 |
| C130 | 0.35726 | 0.18739 | 0.95252 |
| N6   | 0.2452  | 0.23525 | 0.92028 |
| H71  | 0.21969 | 0.28992 | 0.08099 |
| C131 | 0.17602 | 0.33158 | 0.02086 |
| H72  | 0.37197 | 0.19632 | 0.98967 |
| C132 | 0.37156 | 0.15312 | 0.94387 |
| C133 | 0.15783 | 0.32679 | 0.10941 |
| C134 | 0.16016 | 0.35589 | 0.93298 |
| C135 | 0.36186 | 0.13905 | 0.85537 |
| C136 | 0.3955  | 0.13327 | 0.02697 |
| C137 | 0.12492 | 0.34558 | 0.11177 |
| H73  | 0.16971 | 0.30799 | 0.17935 |
| C138 | 0.12735 | 0.37497 | 0.93283 |
| H74  | 0.17351 | 0.35993 | 0.86072 |
| C139 | 0.37522 | 0.10629 | 0.85002 |
| H75  | 0.34387 | 0.15385 | 0.78656 |
| C140 | 0.40876 | 0.10046 | 0.02582 |
| H76  | 0.40328 | 0.14377 | 0.09758 |
| C141 | 0.10908 | 0.37012 | 0.02279 |
| C142 | 0.10782 | 0.33874 | 0.21115 |
| C143 | 0.11295 | 0.3998  | 0.83359 |
| C144 | 0.39878 | 0.08639 | 0.93667 |
| C145 | 0.36376 | 0.09363 | 0.75015 |
| C146 | 0.43289 | 0.08172 | 0.1231  |
| H77  | 0.10349 | 0.31982 | 0.18376 |
| H78  | 0.12188 | 0.33062 | 0.29632 |
| H79  | 0.08493 | 0.35943 | 0.234   |
| H80  | 0.11122 | 0.422   | 0.86239 |
| H81  | 0.1276  | 0.39213 | 0.74979 |
|    |      |      |      |
|----|------|------|------|
| H82 | 0.08919 | 0.40532 | 0.80806 |
| H83 | 0.34295 | 0.09263 | 0.78023 |
| H84 | 0.35666 | 0.1085 | 0.66784 |
| H85 | 0.38171 | 0.06976 | 0.72177 |
| H86 | 0.45647 | 0.07685 | 0.09601 |
| H87 | 0.42698 | 0.09263 | 0.20981 |
| H88 | 0.43476 | 0.05896 | 0.14287 |
| C147 | 0.05462 | 0.37765 | 0.99899 |
| C148 | 0.05949 | 0.42399 | 0.04016 |
| C149 | 0.07751 | 0.43803 | 0.07168 |
| C150 | 0.09304 | 0.32909 | 0.9641 |
| C151 | 0.07751 | 0.43803 | 0.07168 |
| C152 | 0.00134 | 0.38401 | 0.99214 |
| C153 | 0.00666 | 0.43078 | 0.0992 |
| C154 | 0.04879 | 0.3168 | 0.96605 |
| C155 | 0.09304 | 0.32909 | 0.9641 |
| H90 | 0.01215 | 0.47789 | 0.03075 |
| C157 | 0.06351 | 0.47038 | 0.08336 |
| C158 | 0.08919 | 0.40532 | 0.80806 |
| C159 | 0.01522 | 0.35078 | 0.97878 |
| C160 | 0.08919 | 0.40532 | 0.80806 |
| H91 | 0.05955 | 0.30624 | 0.94927 |
| C161 | 0.09304 | 0.32909 | 0.9641 |
| C162 | 0.03125 | 0.49032 | 0.06073 |
| H92 | 0.07788 | 0.48063 | 0.1902 |
| C163 | 0.94854 | 0.39867 | 0.00184 |
| C164 | 0.93392 | 0.43721 | 0.99985 |
| C165 | 0.95956 | 0.33777 | 0.97617 |
| C166 | 0.95941 | 0.48423 | 0.99598 |
| C167 | 0.9643 | 0.53099 | 0.98829 |
| H93 | 0.02129 | 0.51588 | 0.06918 |
| C168 | 0.9145 | 0.41024 | 0.01647 |
| C169 | 0.96318 | 0.35678 | 0.98959 |
| C170 | 0.92028 | 0.45713 | 0.99548 |
| H94 | 0.00601 | 0.31219 | 0.9646 |
| C171 | 0.92621 | 0.50371 | 0.97775 |
| C172 | 0.93236 | 0.5498 | 0.96145 |
| H95 | 0.97847 | 0.54238 | 0.98878 |
| C173 | 0.90067 | 0.4438 | 0.00693 |
| C174 | 0.89481 | 0.39801 | 0.04037 |
| H96 | 0.94901 | 0.34538 | 0.98801 |
| C175 | 0.90652 | 0.49023 | 0.9808 |
| C176 | 0.9127 | 0.53679 | 0.95849 |
| H97 | 0.92224 | 0.57524 | 0.94524 |
| C177 | 0.86712 | 0.46425 | 0.01241 |
|   |   |   |   |
|---|---|---|---|
| C178 | 0.86224 | 0.41812 | 0.05419 |
| H98  | 0.90449 | 0.37251 | 0.05125 |
| C179 | 0.87293 | 0.51013 | 0.96974 |
| C180 | 0.87954 | 0.5557  | 0.9346  |
| C181 | 0.84855 | 0.45042 | 0.03966 |
| H99  | 0.84738 | 0.40804 | 0.07561 |
| C182 | 0.86067 | 0.54293 | 0.93954 |
| H100 | 0.86921 | 0.58093 | 0.91278 |
| H101 | 0.82292 | 0.46534 | 0.05012 |
| H102 | 0.83541 | 0.55826 | 0.92069 |
| C183 | 0.0739  | 0.3906  | 0.02149 |
| C184 | 0.85317 | 0.49753 | 0.98984 |
| C185 | 0.41477 | 0.38009 | 0.00205 |
| C186 | 0.51532 | 0.498   | 0.89688 |
| C187 | 0.52544 | 0.83009 | 0.9119  |
| C188 | 0.4129  | 0.05131 | 0.93235 |
| C189 | 0.61165 | 0.59185 | 0.41547 |
| C190 | 0.64455 | 0.57284 | 0.43287 |
| C191 | 0.66343 | 0.58706 | 0.43377 |
| C192 | 0.61939 | 0.63734 | 0.40618 |
| C193 | 0.59925 | 0.62463 | 0.39795 |
| C194 | 0.56637 | 0.64441 | 0.36789 |
| C195 | 0.65972 | 0.53901 | 0.44329 |
| N7   | 0.54036 | 0.65949 | 0.33978 |
| N8   | 0.67271 | 0.51195 | 0.44977 |
| C196 | 0.59053 | 0.57913 | 0.41124 |
| H103 | 0.57079 | 0.59091 | 0.34542 |
| C197 | 0.60781 | 0.67127 | 0.39347 |
| H104 | 0.62408 | 0.67727 | 0.34768 |
| C198 | 0.69768 | 0.56741 | 0.44348 |
| H105 | 0.70792 | 0.54221 | 0.42272 |
| N9   | 0.65058 | 0.61846 | 0.42236 |
| C199 | 0.5931  | 0.55572 | 0.4864  |
| H106 | 0.61181 | 0.54572 | 0.55703 |
| C200 | 0.71685 | 0.57822 | 0.47739 |
| H107 | 0.70646 | 0.60296 | 0.50648 |
| C201 | 0.58002 | 0.6942  | 0.44033 |
| H108 | 0.56565 | 0.68725 | 0.49546 |
| C202 | 0.57269 | 0.5423  | 0.48473 |
| C203 | 0.57762 | 0.51908 | 0.57323 |
| C204 | 0.54861 | 0.55089 | 0.39714 |
| C205 | 0.55946 | 0.50466 | 0.57533 |
| H109 | 0.5962  | 0.51209 | 0.64309 |
| C206 | 0.53004 | 0.53693 | 0.39703 |
| H110 | 0.54417 | 0.56872 | 0.32566 |
| C207 | 0.53518 | 0.51343 | 0.48654 |
| C208 | 0.75122 | 0.55611 | 0.48058 |
|    |    |    |    |
|----|----|----|----|
| C209 | 0.7693 | 0.56312 | 0.5675 |
| C210 | 0.76713 | 0.53338 | 0.39572 |
| C211 | 0.80213 | 0.54359 | 0.5729 |
| H111 | 0.75738 | 0.58218 | 0.6354 |
| C212 | 0.79992 | 0.51391 | 0.39572 |
| H112 | 0.75377 | 0.52955 | 0.32381 |
| C213 | 0.81804 | 0.51857 | 0.48699 |
| C214 | 0.56713 | 0.72822 | 0.42981 |
| C215 | 0.57663 | 0.74226 | 0.33866 |
| C216 | 0.54327 | 0.74816 | 0.51274 |
| C217 | 0.56311 | 0.77505 | 0.3307 |
| H113 | 0.59459 | 0.72745 | 0.27007 |
| C218 | 0.52966 | 0.78097 | 0.50826 |
| H114 | 0.5355 | 0.73769 | 0.58479 |
| C219 | 0.53948 | 0.79501 | 0.41658 |
| C220 | 0.50536 | 0.54756 | 0.29828 |
| H115 | 0.48315 | 0.56855 | 0.32691 |
| H116 | 0.51304 | 0.55424 | 0.2137 |
| H117 | 0.49993 | 0.52929 | 0.27408 |
| C221 | 0.56675 | 0.48034 | 0.67438 |
| H118 | 0.58574 | 0.45682 | 0.64568 |
| H119 | 0.57499 | 0.48615 | 0.7587 |
| H120 | 0.54635 | 0.4782 | 0.69903 |
| C222 | 0.81909 | 0.55014 | 0.67245 |
| H121 | 0.82466 | 0.56819 | 0.64303 |
| H122 | 0.8044 | 0.55923 | 0.75573 |
| H123 | 0.84133 | 0.52907 | 0.69917 |
| C223 | 0.81435 | 0.48895 | 0.29972 |
| H124 | 0.81467 | 0.46731 | 0.32844 |
| H125 | 0.80048 | 0.49714 | 0.2142 |
| H126 | 0.83863 | 0.48234 | 0.27741 |
| C224 | 0.50524 | 0.79975 | 0.60421 |
| H127 | 0.48165 | 0.80516 | 0.57522 |
| H128 | 0.51046 | 0.78627 | 0.69106 |
| H129 | 0.50374 | 0.82224 | 0.62451 |
| C225 | 0.57436 | 0.78772 | 0.22841 |
| H130 | 0.59539 | 0.7885 | 0.25589 |
| H131 | 0.58107 | 0.77255 | 0.14665 |
| H132 | 0.55646 | 0.81168 | 0.19987 |
| C226 | 0.52897 | 0.46569 | 0.46603 |
| C227 | 0.482 | 0.51732 | 0.50831 |
| C228 | 0.50997 | 0.45129 | 0.47309 |
| C229 | 0.56199 | 0.44547 | 0.43876 |
| C230 | 0.4625 | 0.50359 | 0.50001 |
| C231 | 0.46723 | 0.54992 | 0.53757 |
| C232 | 0.52438 | 0.41771 | 0.46721 |
| C233 | 0.4768 | 0.47031 | 0.48628 |
|     |     |     |     |
|-----|-----|-----|-----|
|     |     |     |     |
| C234 | 0.57563 | 0.41348 | 0.43071 |
| H133 | 0.57678 | 0.45595 | 0.42443 |
| C235 | 0.42891 | 0.52305 | 0.50877 |
| C236 | 0.43492 | 0.56819 | 0.55174 |
| H134 | 0.48145 | 0.56103 | 0.5499 |
| C237 | 0.50578 | 0.40322 | 0.48152 |
| C238 | 0.55751 | 0.39847 | 0.44905 |
| C239 | 0.45781 | 0.45592 | 0.48727 |
| H135 | 0.60096 | 0.39889 | 0.41084 |
| C240 | 0.4095 | 0.50885 | 0.49095 |
| C241 | 0.41573 | 0.5519 | 0.53512 |
| H136 | 0.4241 | 0.59328 | 0.57501 |
| C242 | 0.5205 | 0.36974 | 0.4873 |
| C243 | 0.47219 | 0.42268 | 0.4876 |
| C244 | 0.5714 | 0.36536 | 0.44799 |
| C245 | 0.42419 | 0.47539 | 0.48574 |
| C246 | 0.37642 | 0.5272 | 0.47781 |
| H137 | 0.39017 | 0.57075 | 0.54575 |
| C247 | 0.50128 | 0.35551 | 0.51132 |
| C248 | 0.55342 | 0.35143 | 0.46884 |
| C249 | 0.45322 | 0.40827 | 0.49167 |
| H138 | 0.59687 | 0.35032 | 0.43205 |
| C250 | 0.40551 | 0.46091 | 0.47638 |
| C251 | 0.3583 | 0.51333 | 0.46191 |
| H139 | 0.36434 | 0.55309 | 0.47762 |
| C252 | 0.46763 | 0.37497 | 0.50673 |
| C253 | 0.51468 | 0.32336 | 0.54012 |
| H140 | 0.56546 | 0.32554 | 0.4684 |
| C254 | 0.41996 | 0.42731 | 0.48265 |
| C255 | 0.37224 | 0.48021 | 0.46275 |
| H141 | 0.33269 | 0.52842 | 0.44986 |
| C256 | 0.44821 | 0.36123 | 0.5208 |
| C257 | 0.49561 | 0.31041 | 0.56337 |
| H142 | 0.54031 | 0.30779 | 0.54785 |
| C258 | 0.40096 | 0.41287 | 0.47988 |
| C259 | 0.35406 | 0.46521 | 0.44803 |
| C260 | 0.4632 | 0.32866 | 0.55289 |
| H143 | 0.50661 | 0.28535 | 0.58897 |
| C261 | 0.3678 | 0.43317 | 0.45558 |
| H144 | 0.32859 | 0.47987 | 0.43109 |
| H145 | 0.44909 | 0.31757 | 0.57037 |
| H146 | 0.35295 | 0.42274 | 0.44341 |
| C262 | 0.49286 | 0.85055 | 0.39087 |
| C263 | 0.54515 | 0.84328 | 0.43114 |
| C264 | 0.47937 | 0.88416 | 0.39654 |
| C265 | 0.47184 | 0.83904 | 0.36578 |
| C266 | 0.53235 | 0.87666 | 0.41987 |
|   |   |   |   |
|---|---|---|---|
| C267 | 0.57761 | 0.82407 | 0.46156 |
| C268 | 0.44593 | 0.90476 | 0.39247 |
| C269 | 0.49918 | 0.89707 | 0.40734 |
| C270 | 0.43999 | 0.85676 | 0.35862 |
| H147 | 0.48159 | 0.83685 | 0.47195 |
| C271 | 0.5526 | 0.88955 | 0.42537 |
| C272 | 0.59669 | 0.83692 | 0.47772 |
| H148 | 0.58794 | 0.79865 | 0.40722 |
| C273 | 0.42591 | 0.92342 | 0.40624 |
| C274 | 0.48567 | 0.93067 | 0.40838 |
| H149 | 0.42478 | 0.8497 | 0.34044 |
| C275 | 0.53918 | 0.92342 | 0.40624 |
| C276 | 0.58464 | 0.89707 | 0.40734 |
| H150 | 0.62167 | 0.82162 | 0.49579 |
| C277 | 0.3991 | 0.95812 | 0.41556 |
| C278 | 0.4526 | 0.9509 | 0.41159 |
| C279 | 0.39297 | 0.91272 | 0.37727 |
| C280 | 0.50585 | 0.94363 | 0.40458 |
| C281 | 0.55815 | 0.93705 | 0.3896 |
| H151 | 0.60083 | 0.87822 | 0.45891 |
| C282 | 0.38591 | 0.99164 | 0.44094 |
| C283 | 0.37999 | 0.94474 | 0.39658 |
| C284 | 0.43912 | 0.98446 | 0.4175 |
| C285 | 0.37731 | 0.90328 | 0.36274 |
| H152 | 0.4922 | 0.97707 | 0.397 |
| C286 | 0.54499 | 0.96938 | 0.37524 |
| C287 | 0.58391 | 0.9221 | 0.38568 |
| H153 | 0.40609 | 0.00462 | 0.43565 |
| C288 | 0.3541 | 0.01156 | 0.47182 |
| C289 | 0.3542 | 0.05968 | 0.39997 |
| H154 | 0.45884 | 0.99754 | 0.40742 |
| C290 | 0.51209 | 0.98997 | 0.38132 |
| H155 | 0.56049 | 0.97909 | 0.36079 |
| C291 | 0.59336 | 0.03784 | 0.45161 |
| C292 | 0.34217 | 0.04358 | 0.49669 |
| H156 | 0.338 | 0.02043 | 0.47981 |
| C293 | 0.44534 | 0.03112 | 0.40763 |
| C294 | 0.44534 | 0.02356 | 0.37074 |
| C295 | 0.36112 | 0.05662 | 0.48953 |
| H157 | 0.31736 | 0.05853 | 0.5237 |
| C296 | 0.46614 | 0.0431 | 0.38341 |
| H158 | 0.51294 | 0.03366 | 0.35326 |
| H159 | 0.35085 | 0.08187 | 0.50456 |
| H160 | 0.45632 | 0.06868 | 0.37503 |
| C297 | 0.39506 | 0.03649 | 0.50563 |
| C298 | 0.37087 | 0.37373 | 0.59546 |
|    |     |     |     |
|----|-----|-----|-----|
| C300 | 0.40014 | 0.34126 | 0.41851 |
| C301 | 0.3526 | 0.35942 | 0.59607 |
| C302 | 0.36374 | 0.32722 | 0.42213 |
| C303 | 0.42462 | 0.33065 | 0.31848 |
| C304 | 0.35752 | 0.33598 | 0.51034 |
| H161 | 0.334 | 0.36661 | 0.66636 |
| H162 | 0.34445 | 0.42147 | 0.66413 |
| H163 | 0.356 | 0.39167 | 0.77876 |
| H164 | 0.38408 | 0.4004 | 0.71457 |
| H165 | 0.38584 | 0.30946 | 0.35187 |
| H166 | 0.44699 | 0.30986 | 0.3476 |
| H167 | 0.41691 | 0.32371 | 0.23569 |
| H168 | 0.4298 | 0.34901 | 0.29116 |
| C306 | 0.33655 | 0.32318 | 0.51307 |
| C307 | 0.34085 | 0.29731 | 0.45214 |
| H169 | 0.31551 | 0.33622 | 0.57185 |
| C308 | 0.31827 | 0.28627 | 0.45092 |
| H170 | 0.36293 | 0.28224 | 0.40147 |
| C309 | 0.28503 | 0.30712 | 0.45171 |
| N10 | 0.33075 | 0.25487 | 0.42473 |
| C310 | 0.26468 | 0.29477 | 0.45071 |
| C311 | 0.27117 | 0.34089 | 0.44884 |
| C312 | 0.31213 | 0.24238 | 0.43693 |
| C313 | 0.27874 | 0.26169 | 0.44194 |
| C314 | 0.23044 | 0.31617 | 0.45334 |
| N11 | 0.25921 | 0.36788 | 0.4424 |
| C315 | 0.32678 | 0.20821 | 0.42435 |
| C316 | 0.25975 | 0.2473 | 0.43137 |
| H171 | 0.22159 | 0.33621 | 0.39962 |
| C317 | 0.21023 | 0.3109 | 0.52024 |
| H172 | 0.3113 | 0.19952 | 0.39454 |
| C318 | 0.35726 | 0.18739 | 0.45252 |
| N12 | 0.2452 | 0.23525 | 0.42028 |
| H173 | 0.21969 | 0.28992 | 0.58099 |
| C319 | 0.17602 | 0.33158 | 0.52086 |
| H174 | 0.37197 | 0.19632 | 0.48967 |
| C320 | 0.37156 | 0.15312 | 0.44387 |
| C321 | 0.15783 | 0.32679 | 0.60941 |
| C322 | 0.16016 | 0.35589 | 0.43298 |
| C323 | 0.36186 | 0.13905 | 0.35537 |
| C324 | 0.3955 | 0.13327 | 0.52697 |
| C325 | 0.12492 | 0.34558 | 0.61177 |
| H175 | 0.16971 | 0.30799 | 0.67935 |
| C326 | 0.12735 | 0.37497 | 0.43283 |
| H176 | 0.17351 | 0.35993 | 0.36072 |
| C327 | 0.37522 | 0.10629 | 0.35002 |
|      |      |      |      |
|------|------|------|------|
| H177 | 0.34387 | 0.15385 | 0.28656 |
| C328 | 0.40876 | 0.10046 | 0.52582 |
| H178 | 0.40328 | 0.14377 | 0.59758 |
| C329 | 0.10908 | 0.37012 | 0.52279 |
| C330 | 0.10782 | 0.38784 | 0.71115 |
| C331 | 0.11295 | 0.3998  | 0.33359 |
| C332 | 0.39878 | 0.08639 | 0.43667 |
| C333 | 0.10908 | 0.37012 | 0.52279 |
| C334 | 0.11122 | 0.422   | 0.36239 |
| H179 | 0.10349 | 0.31982 | 0.68376 |
| H180 | 0.12188 | 0.33062 | 0.79632 |
| H181 | 0.08493 | 0.35943 | 0.734   |
| H182 | 0.1276  | 0.39213 | 0.24979 |
| H183 | 0.08919 | 0.40532 | 0.30806 |
| H184 | 0.34295 | 0.09263 | 0.28023 |
| H185 | 0.35666 | 0.10895 | 0.16784 |
| H186 | 0.38171 | 0.06976 | 0.22177 |
| H187 | 0.45647 | 0.07685 | 0.59601 |
| H188 | 0.42698 | 0.095   | 0.70981 |
| H189 | 0.43476 | 0.05896 | 0.64287 |
| C335 | 0.05462 | 0.37765 | 0.49899 |
| C336 | 0.05949 | 0.42399 | 0.54016 |
| C337 | 0.22091 | 0.39756 | 0.50031 |
| C338 | 0.06748 | 0.34456 | 0.475   |
| C339 | 0.02613 | 0.44428 | 0.5258  |
| C340 | 0.07751 | 0.43038 | 0.57168 |
| C341 | 0.00134 | 0.38401 | 0.49214 |
| C342 | 0.00686 | 0.43078 | 0.5092  |
| C343 | 0.04879 | 0.33168 | 0.46605 |
| H190 | 0.09304 | 0.32909 | 0.4641  |
| C344 | 0.01215 | 0.47789 | 0.53075 |
| C345 | 0.06351 | 0.47038 | 0.58336 |
| H192 | 0.10295 | 0.423   | 0.58774 |
| C346 | 0.96785 | 0.40361 | 0.49893 |
| C347 | 0.01522 | 0.35078 | 0.47878 |
| C348 | 0.97325 | 0.45067 | 0.50261 |
| H193 | 0.05955 | 0.30624 | 0.44927 |
| C349 | 0.97857 | 0.49806 | 0.50475 |
| C350 | 0.03125 | 0.49032 | 0.56073 |
| H194 | 0.07788 | 0.48063 | 0.60902 |
| C351 | 0.94854 | 0.38987 | 0.50184 |
| C352 | 0.95392 | 0.43721 | 0.49985 |
| C353 | 0.99556 | 0.33777 | 0.47617 |
| C354 | 0.95941 | 0.48423 | 0.49598 |
| C355 | 0.9643  | 0.53099 | 0.48629 |
| H195 | 0.02129 | 0.51588 | 0.56918 |
| C356 | 0.9145 | 0.41024 | 0.51647 |
| C357 | 0.96318 | 0.35678 | 0.48959 |
| C358 | 0.92028 | 0.45713 | 0.49548 |
| H196 | 0.00601 | 0.31219 | 0.4646 |
| C359 | 0.92621 | 0.50371 | 0.47775 |
| C360 | 0.93236 | 0.5498 | 0.46145 |
| H197 | 0.97847 | 0.54238 | 0.48878 |
| C361 | 0.90067 | 0.4438 | 0.50693 |
| C362 | 0.89481 | 0.39801 | 0.54037 |
| H198 | 0.94901 | 0.34538 | 0.48801 |
| C363 | 0.90652 | 0.49023 | 0.4808 |
| C364 | 0.9127 | 0.53679 | 0.45849 |
| H199 | 0.92224 | 0.57524 | 0.44524 |
| C365 | 0.86712 | 0.46425 | 0.51241 |
| C366 | 0.86224 | 0.41812 | 0.55419 |
| H200 | 0.90449 | 0.37251 | 0.55125 |
| C367 | 0.87293 | 0.51013 | 0.46974 |
| C368 | 0.87954 | 0.5557 | 0.4346 |
| C369 | 0.84855 | 0.45042 | 0.53966 |
| H201 | 0.84738 | 0.40804 | 0.57561 |
| C370 | 0.86067 | 0.54293 | 0.43954 |
| H202 | 0.86921 | 0.58093 | 0.41278 |
| H203 | 0.82292 | 0.46534 | 0.55012 |
| H204 | 0.83541 | 0.55826 | 0.42069 |
| C371 | 0.0739 | 0.3906 | 0.52149 |
| C372 | 0.85317 | 0.49753 | 0.48984 |
| C373 | 0.41477 | 0.38009 | 0.50205 |
| C374 | 0.51532 | 0.4984 | 0.48688 |
| C375 | 0.52544 | 0.83009 | 0.4119 |
| C376 | 0.4129 | 0.05131 | 0.43235 |
Table S6. Atomistic coordinates for the AB-stacking mode of DBOV-DCTMP-COF optimized by using DFTB+ method. Space group: P1; a = 49.4385 Å, b = 49.2021 Å, c = 5.5362 Å, α = 88.0245˚, β = 86.7419˚, and γ = 59.2427˚.

| Atom | x | y | z |
|------|---|---|---|
| C1   | 0.60147 | 0.58877 | 0.91888 |
| C2   | 0.63486 | 0.57036 | 0.90326 |
| C3   | 0.65297 | 0.58574 | 0.89741 |
| C4   | 0.60702 | 0.63617 | 0.90277 |
| C5   | 0.58781 | 0.62219 | 0.92025 |
| C6   | 0.55399 | 0.64075 | 0.94259 |
| C7   | 0.65097 | 0.53645 | 0.88227 |
| N1   | 0.52686 | 0.65408 | 0.96346 |
| N2   | 0.66398 | 0.50944 | 0.85592 |
| C8   | 0.58043 | 0.5759  | 0.92184 |
| H1   | 0.55611 | 0.59284 | 0.87192 |
| C9   | 0.59593 | 0.67027 | 0.89339 |
| H2   | 0.6153  | 0.67527 | 0.87335 |
| C10  | 0.68763 | 0.56743 | 0.89125 |
| H3   | 0.69898 | 0.54155 | 0.87693 |
| N3   | 0.6388  | 0.61746 | 0.89534 |
| C11  | 0.58797 | 0.54607 | 0.98709 |
| H4   | 0.61132 | 0.52945 | 0.95633 |
| C12  | 0.70555 | 0.5807  | 0.91648 |
| H5   | 0.69364 | 0.60656 | 0.93967 |
| C13  | 0.56594 | 0.69498 | 0.92109 |
| H6   | 0.54633 | 0.69049 | 0.94882 |
| C14  | 0.56646 | 0.53396 | 0.98555 |
| C15  | 0.57048 | 0.5103  | 0.15487 |
| C16  | 0.54257 | 0.54432 | 0.81845 |
| C17  | 0.55093 | 0.49737 | 0.16232 |
| H7   | 0.5888  | 0.50242 | 0.22882 |
| C18  | 0.52328 | 0.53111 | 0.81647 |
| H8   | 0.5396  | 0.56224 | 0.6808 |
| C19  | 0.52731 | 0.50738 | 0.98981 |
| C20  | 0.74012 | 0.56255 | 0.92313 |
| C21  | 0.75586 | 0.56974 | 0.09145 |
| C22  | 0.75849 | 0.53759 | 0.76186 |
| C23  | 0.78867 | 0.55194 | 0.10918 |
| H9   | 0.74216 | 0.58909 | 0.22025 |
| C24  | 0.79142 | 0.51984 | 0.76873 |
| H10  | 0.74709 | 0.53242 | 0.62057 |
| C25  | 0.80698 | 0.5264  | 0.94647 |
| C26  | 0.55703 | 0.72844 | 0.93575 |
| C27  | 0.56959 | 0.74215 | 0.77311 |
| C28  | 0.53475 | 0.74772 | 0.11684 |
| C29  | 0.55885 | 0.77464 | 0.77789 |
| H11  | 0.58679 | 0.72777 | 0.62829 |
| C30  | 0.52513 | 0.77979 | 0.13648 |
| H12  | 0.52547 | 0.7372  | 0.25181 |
| C31  | 0.53645 | 0.79392 | 0.96103 |
|   | C32  | H13  | H14  | H15  | C33  | H16  | H17  | H18  | C34  | H19  | H20  | H21  | C35  | H22  | H23  | H24  | C36  | H25  | H26  | H27  | C37  | H28  | H29  | H30  | C38  | C39  | C40  | C41  | C42  | C43  | C44  | C45  | C46  | H31  | C47  | C48  | H32  | C49  | C50  | C51  | H33  | C52  | C53  | H34  | C54  | C55  | C56  |
|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|   | 0.49899 | 0.47691 | 0.50724 | 0.49293 | 0.55572 | 0.57673 | 0.55956 | 0.5355 | 0.80273 | 0.80715 | 0.78673 | 0.82522 | 0.80871 | 0.80701 | 0.79827 | 0.83381 | 0.50265 | 0.47807 | 0.50795 | 0.50351 | 0.57112 | 0.59512 | 0.57253 | 0.55618 | 0.52181 | 0.47408 | 0.50302 | 0.55522 | 0.45486 | 0.459 | 0.51788 | 0.46966 | 0.56934 | 0.56989 | 0.42113 | 0.42646 | 0.47318 | 0.49935 | 0.55132 | 0.45091 | 0.59497 | 0.4022 | 0.40753 | 0.4152 | 0.51429 | 0.46562 | 0.56556 | 0.54263 | 0.564 | 0.54909 | 0.52485 | 0.47353 | 0.45026 | 0.48102 | 0.47011 | 0.56103 | 0.58001 | 0.57025 | 0.54117 | 0.50356 | 0.48714 | 0.79818 | 0.80604 | 0.78358 | 0.81935 | 0.7877 | 0.78243 | 0.77695 | 0.81343 | 0.45956 | 0.51108 | 0.44485 | 0.43954 | 0.49722 | 0.54344 | 0.41109 | 0.46382 | 0.40733 | 0.45035 | 0.5166 | 0.5616 | 0.55429 | 0.39635 | 0.39199 | 0.44915 | 0.39281 | 0.50218 | 0.54869 | 0.58654 | 0.36275 | 0.41574 | 0.3587 | 0.6272 | 0.68747 | 0.45828 | 0.58205 | 0.35739 | 0.31688 | 0.53113 | 0.38587 | 0.30326 | 0.24024 | 0.46463 | 0.36284 | 0.57963 | 0.62058 | 0.40253 | 0.55714 | 0.34343 | 0.30442 | 0.50866 | 0.38647 | 0.5799 | 0.613 | 0.40488 | 0.55832 | 0.94557 | 0.03759 | 0.98451 | 0.8433 | 0.99448 | 0.09303 | 0.18844 | 0.00234 | 0.99278 | 0.92814 |
|  |  |  |  |
|---|---|---|---|
| C57 | 0.41727 | 0.46856 | 0.98375 |
| C58 | 0.36928 | 0.52035 | 0.96562 |
| H35 | 0.38118 | 0.56421 | 0.11331 |
| C59 | 0.49489 | 0.34836 | 0.04975 |
| C60 | 0.54755 | 0.34455 | 0.97203 |
| C61 | 0.46681 | 0.40111 | 0.0019 |
| H36 | 0.59132 | 0.34371 | 0.90138 |
| C62 | 0.39897 | 0.45739 | 0.9638 |
| C63 | 0.35166 | 0.50614 | 0.93097 |
| H37 | 0.357 | 0.54635 | 0.96578 |
| C64 | 0.46129 | 0.36772 | 0.03634 |
| C65 | 0.50799 | 0.31619 | 0.10974 |
| H38 | 0.55986 | 0.31855 | 0.9784 |
| C66 | 0.41368 | 0.42007 | 0.97984 |
| C67 | 0.36587 | 0.47286 | 0.93357 |
| H39 | 0.32619 | 0.52109 | 0.90515 |
| C68 | 0.44184 | 0.35384 | 0.0646 |
| C69 | 0.48873 | 0.30305 | 0.15299 |
| H40 | 0.53352 | 0.30071 | 0.12836 |
| C70 | 0.39489 | 0.40543 | 0.97674 |
| C71 | 0.34813 | 0.45749 | 0.90485 |
| C72 | 0.45646 | 0.3212 | 0.12841 |
| H41 | 0.49952 | 0.27793 | 0.20441 |
| C73 | 0.36201 | 0.42535 | 0.92572 |
| H42 | 0.32292 | 0.47195 | 0.86815 |
| H43 | 0.4421 | 0.31006 | 0.15948 |
| H44 | 0.34761 | 0.41446 | 0.9045 |
| C74 | 0.49126 | 0.84976 | 0.92267 |
| C75 | 0.54381 | 0.8415 | 0.9918 |
| C76 | 0.47827 | 0.8834 | 0.93067 |
| C77 | 0.4701 | 0.83854 | 0.87887 |
| C78 | 0.53159 | 0.87492 | 0.96759 |
| C79 | 0.57617 | 0.82165 | 0.04362 |
| C80 | 0.44488 | 0.90444 | 0.92586 |
| C81 | 0.49855 | 0.8958 | 0.94423 |
| C82 | 0.43825 | 0.85668 | 0.8727 |
| H45 | 0.47973 | 0.8131 | 0.85153 |
| C83 | 0.55227 | 0.88736 | 0.97257 |
| C84 | 0.5956 | 0.8341 | 0.06044 |
| H46 | 0.58608 | 0.79607 | 0.07059 |
| C85 | 0.43176 | 0.93783 | 0.94542 |
| C86 | 0.4245 | 0.89212 | 0.90564 |
| C87 | 0.48559 | 0.92944 | 0.93556 |
| H47 | 0.42272 | 0.84927 | 0.8432 |
| C88 | 0.53959 | 0.92117 | 0.92657 |
| C89 | 0.58408 | 0.8665 | 0.02096 |
| H48 | 0.62049 | 0.81839 | 0.10218 |
|    |       |       |       |
|----|-------|-------|-------|
| C90 | 0.39843 | 0.95851 | 0.9643 |
| C91 | 0.45251 | 0.95021 | 0.9402 |
| C92 | 0.39155 | 0.91318 | 0.91415 |
| C93 | 0.50633 | 0.94184 | 0.91696 |
| C94 | 0.55916 | 0.94541 | 0.94732 |
| H49 | 0.60056 | 0.87514 | 0.03269 |
| C95 | 0.45251 | 0.95021 | 0.9402 |
| C96 | 0.37892 | 0.98384 | 0.93427 |
| C97 | 0.58495 | 0.91908 | 0.88938 |
| C98 | 0.39155 | 0.91318 | 0.91415 |
| C99 | 0.5467 | 0.96639 | 0.83987 |
| H50 | 0.37563 | 0.90393 | 0.89687 |
| C100 | 0.34193 | 0.04572 | 0.08753 |
| C101 | 0.33709 | 0.0046 | 0.08843 |
| C102 | 0.4679 | 0.22988 | 0.7823 |
| C103 | 0.36144 | 0.02294 | 0.7273 |
| C104 | 0.3514 | 0.03798 | 0.03879 |
| C105 | 0.3514 | 0.03798 | 0.03879 |
| C106 | 0.36387 | 0.36729 | 0.22042 |
| C107 | 0.36387 | 0.36729 | 0.22042 |
| C108 | 0.36387 | 0.36729 | 0.22042 |
| C109 | 0.36387 | 0.36729 | 0.22042 |
| C110 | 0.36387 | 0.36729 | 0.22042 |
| C111 | 0.36387 | 0.36729 | 0.22042 |
| C112 | 0.36387 | 0.36729 | 0.22042 |
| C113 | 0.36387 | 0.36729 | 0.22042 |
| C114 | 0.36387 | 0.36729 | 0.22042 |
| C115 | 0.36387 | 0.36729 | 0.22042 |
| C116 | 0.36387 | 0.36729 | 0.22042 |
| C117 | 0.36387 | 0.36729 | 0.22042 |
| C118 | 0.36387 | 0.36729 | 0.22042 |
|   |   |   |   |
|---|---|---|---|
| C119 | 0.32989 | 0.29632 | 0.9215 |
| H67 | 0.30351 | 0.3357 | 0.15547 |
| C120 | 0.30717 | 0.28556 | 0.91145 |
| H68 | 0.35281 | 0.28065 | 0.82716 |
| C121 | 0.27394 | 0.30618 | 0.90326 |
| N4 | 0.32011 | 0.25402 | 0.89815 |
| C122 | 0.30717 | 0.28556 | 0.91145 |
| H69 | 0.35281 | 0.28065 | 0.82716 |
| C123 | 0.29993 | 0.34009 | 0.90111 |
| C124 | 0.32011 | 0.25402 | 0.89815 |
| C125 | 0.26866 | 0.26006 | 0.87626 |
| C126 | 0.21975 | 0.31508 | 0.01164 |
| N5 | 0.24626 | 0.36719 | 0.89345 |
| C127 | 0.31854 | 0.20643 | 0.86437 |
| C128 | 0.25038 | 0.24519 | 0.84582 |
| H69 | 0.21218 | 0.3357 | 0.78017 |
| C129 | 0.19801 | 0.31058 | 0.01164 |
| H70 | 0.30485 | 0.19582 | 0.81063 |
| C130 | 0.34922 | 0.18787 | 0.92011 |
| N6 | 0.23644 | 0.23729 | 0.81648 |
| H71 | 0.20608 | 0.28949 | 0.12928 |
| C131 | 0.16386 | 0.3258 | 0.01619 |
| H72 | 0.36145 | 0.19948 | 0.98667 |
| C132 | 0.36696 | 0.15326 | 0.90908 |
| C133 | 0.14473 | 0.32921 | 0.19942 |
| C134 | 0.14911 | 0.35697 | 0.84358 |
| C135 | 0.3602 | 0.13684 | 0.74163 |
| C136 | 0.39138 | 0.13558 | 0.06863 |
| C137 | 0.1119 | 0.34948 | 0.21301 |
| H73 | 0.15581 | 0.31043 | 0.33701 |
| C138 | 0.11634 | 0.37737 | 0.85126 |
| H74 | 0.16326 | 0.35998 | 0.69572 |
| C139 | 0.37638 | 0.10372 | 0.73864 |
| H75 | 0.34221 | 0.15004 | 0.60786 |
| C140 | 0.40743 | 0.10238 | 0.07433 |
| H76 | 0.39711 | 0.14809 | 0.19913 |
| C141 | 0.09725 | 0.3738 | 0.0369 |
| C142 | 0.09327 | 0.3447 | 0.41623 |
| C143 | 0.10244 | 0.40251 | 0.65914 |
| C144 | 0.39971 | 0.08602 | 0.90984 |
| C145 | 0.36813 | 0.08602 | 0.55178 |
| C146 | 0.43201 | 0.0854 | 0.25909 |
| H77 | 0.08948 | 0.32507 | 0.37882 |
| H78 | 0.10581 | 0.33865 | 0.58569 |
| H79 | 0.07002 | 0.36587 | 0.45 |
| H80 | 0.10275 | 0.42388 | 0.70824 |
| H81 | 0.11602 | 0.39425 | 0.48587 |
| H82 | 0.07789 | 0.40982 | 0.62722 |
|   |   |   |
|---|---|---|
| H83 | 0.34705 | 0.0868 | 0.60928 |
| H84 | 0.36267 | 0.10147 | 0.38065 |
| H85 | 0.38728 | 0.06378 | 0.51185 |
| H86 | 0.45454 | 0.08352 | 0.19843 |
| H87 | 0.4282 | 0.09811 | 0.43241 |
| H88 | 0.4368 | 0.06131 | 0.29717 |
| C147 | 0.04259 | 0.38266 | 0.99665 |
| C148 | 0.04803 | 0.4282 | 0.09035 |
| C149 | 0.00888 | 0.40309 | 0.00194 |
| C150 | 0.05538 | 0.34959 | 0.94608 |
| C151 | 0.01463 | 0.44911 | 0.07478 |
| C152 | 0.06655 | 0.44132 | 0.15301 |
| C153 | 0.98907 | 0.39007 | 0.97583 |
| C154 | 0.99516 | 0.43624 | 0.03297 |
| C155 | 0.03644 | 0.33724 | 0.9196 |
| H89 | 0.08111 | 0.33373 | 0.92961 |
| C156 | 0.0009 | 0.4826 | 0.10469 |
| C157 | 0.0528 | 0.47342 | 0.19486 |
| H90 | 0.09211 | 0.42585 | 0.16984 |
| C158 | 0.95551 | 0.41015 | 0.9878 |
| C159 | 0.00271 | 0.35691 | 0.9399 |
| C160 | 0.96163 | 0.45672 | 0.0222 |
| H91 | 0.04709 | 0.31183 | 0.88327 |
| C161 | 0.96734 | 0.50368 | 0.06489 |
| C162 | 0.02039 | 0.49405 | 0.16799 |
| H92 | 0.06746 | 0.483 | 0.24654 |
| C163 | 0.93578 | 0.39689 | 0.98024 |
| C164 | 0.94203 | 0.44375 | 0.00203 |
| C165 | 0.98272 | 0.34443 | 0.92281 |
| C166 | 0.94815 | 0.49039 | 0.02738 |
| C167 | 0.95311 | 0.53703 | 0.0568 |
| H93 | 0.01068 | 0.5194 | 0.19935 |
| C168 | 0.90157 | 0.41766 | 0.00628 |
| C169 | 0.95016 | 0.36386 | 0.94632 |
| C170 | 0.90852 | 0.46424 | 0.99008 |
| H94 | 0.99303 | 0.31893 | 0.89258 |
| C171 | 0.91527 | 0.5106 | 0.98854 |
| C172 | 0.92153 | 0.55668 | 0.00704 |
| H95 | 0.96715 | 0.54815 | 0.88438 |
| C173 | 0.88841 | 0.45129 | 0.99839 |
| C174 | 0.88104 | 0.40588 | 0.03926 |
| H96 | 0.93566 | 0.35293 | 0.93348 |
| C175 | 0.8954 | 0.4975 | 0.97187 |
| C176 | 0.90209 | 0.54401 | 0.97057 |
| H97 | 0.91159 | 0.58245 | 0.99627 |
| C177 | 0.85489 | 0.47228 | 0.00577 |
| C178 | 0.84835 | 0.42652 | 0.06791 |
|   |   |   |   |
|---|---|---|---|
| H98 | 0.89019 | 0.38028 | 0.04886 |
| C179 | 0.86223 | 0.51791 | 0.93703 |
| C180 | 0.86979 | 0.56344 | 0.90642 |
| C181 | 0.83537 | 0.45896 | 0.05097 |
| H99 | 0.83275 | 0.41684 | 0.10092 |
| C182 | 0.86025 | 0.58889 | 0.87468 |
| H101 | 0.89062 | 0.47435 | 0.07309 |
| H102 | 0.82683 | 0.56615 | 0.82273 |
| C183 | 0.06207 | 0.39507 | 0.04211 |
| C184 | 0.84188 | 0.50562 | 0.9633 |
| C185 | 0.40864 | 0.37271 | 0.02675 |
| C186 | 0.50753 | 0.49238 | 0.98939 |
| C187 | 0.52364 | 0.82889 | 0.96047 |
| C188 | 0.4142 | 0.05079 | 0.92052 |
| C189 | 0.95149 | 0.92566 | 0.34095 |
| C190 | 0.98434 | 0.90605 | 0.36503 |
| C191 | 0.00331 | 0.92 | 0.38338 |
| C192 | 0.95917 | 0.97103 | 0.36725 |
| C193 | 0.93904 | 0.95876 | 0.33368 |
| C194 | 0.90618 | 0.97929 | 0.28561 |
| C195 | 0.99907 | 0.87206 | 0.35995 |
| N7 | 0.88021 | 0.99489 | 0.23779 |
| N8 | 0.01117 | 0.84494 | 0.35295 |
| N9 | 0.01117 | 0.84494 | 0.35295 |
| C196 | 0.93029 | 0.9131 | 0.32323 |
| H103 | 0.91262 | 0.92394 | 0.18343 |
| C197 | 0.94732 | 0.00522 | 0.37145 |
| H104 | 0.96351 | 0.01253 | 0.28938 |
| C198 | 0.03756 | 0.89989 | 0.39363 |
| H105 | 0.04769 | 0.875 | 0.34163 |
| N9 | 0.99039 | 0.95163 | 0.38773 |
| C199 | 0.93049 | 0.89114 | 0.47947 |
| H106 | 0.94758 | 0.88202 | 0.6241 |
| C200 | 0.05676 | 0.90994 | 0.4664 |
| H107 | 0.04618 | 0.93439 | 0.53248 |
| C201 | 0.9192 | 0.02691 | 0.4764 |
| H108 | 0.90479 | 0.0187 | 0.57802 |
| C202 | 0.90945 | 0.87839 | 0.48034 |
| C203 | 0.91317 | 0.85555 | 0.65717 |
| C204 | 0.88568 | 0.88774 | 0.31316 |
| C205 | 0.89433 | 0.84177 | 0.66627 |
| H109 | 0.93137 | 0.8482 | 0.79099 |
| C206 | 0.86642 | 0.87447 | 0.31832 |
| H110 | 0.88203 | 0.90563 | 0.17332 |
| C207 | 0.87078 | 0.85098 | 0.4947 |
| C208 | 0.09115 | 0.88972 | 0.46878 |
| C209 | 0.10832 | 0.89526 | 0.6355 |
|      |       |       |       |
|------|-------|-------|-------|
| C210 | 0.10788 | 0.86473 | 0.30337 |
| C211 | 0.1412  | 0.87611 | 0.64263 |
| H111 | 0.09558 | 0.91454 | 0.76734 |
| C212 | 0.1408  | 0.84565 | 0.30226 |
| H112 | 0.09522 | 0.8604  | 0.16662 |
| C213 | 0.15791 | 0.85101 | 0.47372 |
| C214 | 0.90605 | 0.06121 | 0.47304 |
| C215 | 0.91488 | 0.0763  | 0.29091 |
| C216 | 0.88283 | 0.08007 | 0.65043 |
| C217 | 0.90134 | 0.10923 | 0.2864 |
| H113 | 0.93214 | 0.06226 | 0.14513 |
| C218 | 0.86927 | 0.1106  | 0.65311 |
| H114 | 0.87558 | 0.06862 | 0.7933 |
| C219 | 0.87857 | 0.12803 | 0.46994 |
| C220 | 0.84157 | 0.08567 | 0.13427 |
| H115 | 0.81923 | 0.90625 | 0.20081 |
| H116 | 0.84875 | 0.89318 | 0.9653 |
| H117 | 0.83638 | 0.8673  | 0.08828 |
| C221 | 0.89972 | 0.81773 | 0.86078 |
| H118 | 0.92102 | 0.79473 | 0.81916 |
| H119 | 0.90332 | 0.82532 | 0.0349 |
| H120 | 0.87986 | 0.81373 | 0.88813 |
| C222 | 0.15768 | 0.88302 | 0.83058 |
| H121 | 0.16322 | 0.90119 | 0.76668 |
| H122 | 0.14286 | 0.89217 | 0.99784 |
| H123 | 0.17998 | 0.86199 | 0.87984 |
| C223 | 0.15672 | 0.82037 | 0.11323 |
| H124 | 0.15444 | 0.79966 | 0.16055 |
| H125 | 0.14582 | 0.82917 | 0.93765 |
| H126 | 0.18195 | 0.81198 | 0.08502 |
| C224 | 0.84523 | 0.1313  | 0.85216 |
| H127 | 0.82181 | 0.13549 | 0.81166 |
| H128 | 0.8515  | 0.11819 | 0.02472 |
| H129 | 0.84267 | 0.15447 | 0.88235 |
| C225 | 0.91137 | 0.1236  | 0.08292 |
| H130 | 0.93345 | 0.12279 | 0.11985 |
| H131 | 0.91584 | 0.11053 | 0.91395 |
| H132 | 0.89357 | 0.14841 | 0.04856 |
| C226 | 0.86583 | 0.0803  | 0.43784 |
| C227 | 0.81803 | 0.85357 | 0.54973 |
| C228 | 0.84728 | 0.78806 | 0.44061 |
| C229 | 0.89921 | 0.78367 | 0.38002 |
| C230 | 0.79902 | 0.83953 | 0.52579 |
| C231 | 0.80292 | 0.88554 | 0.62817 |
| C232 | 0.86233 | 0.75456 | 0.40748 |
| C233 | 0.81397 | 0.80652 | 0.47682 |
| C234 | 0.91344 | 0.75182 | 0.34296 |
|   | H133  | C235  | C236  | H134  | C237  | C238  | C239  | H135  | C240  | C241  | H136  | C242  | C243  | C244  | C245  | C246  | H137  | C247  | C248  | C249  | H138  | C250  | C251  | H139  | C252  | C253  | H140  | C254  | C255  | H141  | C256  | C257  | H142  | C258  | C259  | C260  | H143  | C261  | H144  | H145  | H146  | C262  | C263  | C264  | C265  | C266  | C267  |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|   | 0.91374 | 0.79475 | 0.36643 | 0.76531 | 0.85842 | 0.55654 | 0.77053 | 0.90305 | 0.67034 | 0.817 | 0.89659 | 0.65678 | 0.84418 | 0.73934 | 0.42481 | 0.89563 | 0.73609 | 0.36211 | 0.79545 | 0.79167 | 0.46935 | 0.939 | 0.73785 | 0.30076 | 0.74635 | 0.84416 | 0.51229 | 0.75171 | 0.88998 | 0.63019 | 0.75931 | 0.92761 | 0.73331 | 0.85947 | 0.70569 | 0.41373 | 0.81048 | 0.75835 | 0.44973 | 0.91006 | 0.70297 | 0.33653 | 0.76169 | 0.81079 | 0.47938 | 0.71314 | 0.86226 | 0.49986 | 0.72606 | 0.90499 | 0.66195 | 0.84075 | 0.69051 | 0.45592 | 0.89249 | 0.68818 | 0.36555 | 0.79197 | 0.74342 | 0.45397 | 0.93565 | 0.68859 | 0.2969 | 0.74348 | 0.79606 | 0.45308 | 0.69551 | 0.84824 | 0.45893 | 0.70057 | 0.88814 | 0.51844 | 0.807 | 0.70978 | 0.46834 | 0.85461 | 0.65765 | 0.48835 | 0.90494 | 0.6623 | 0.34722 | 0.75862 | 0.76229 | 0.44881 | 0.71008 | 0.81506 | 0.43856 | 0.66978 | 0.8632 | 0.44646 | 0.78795 | 0.69554 | 0.50371 | 0.83593 | 0.64408 | 0.54217 | 0.88037 | 0.64193 | 0.47975 | 0.74004 | 0.74745 | 0.44336 | 0.69247 | 0.79974 | 0.40152 | 0.80334 | 0.66248 | 0.55431 | 0.84744 | 0.61841 | 0.57313 | 0.70681 | 0.76747 | 0.40361 | 0.66699 | 0.81432 | 0.37413 | 0.78943 | 0.65114 | 0.60087 | 0.69254 | 0.75657 | 0.37651 | 0.833 | 0.18448 | 0.43401 | 0.88595 | 0.17502 | 0.50532 | 0.82059 | 0.21802 | 0.44689 | 0.81135 | 0.17399 | 0.38702 | 0.87429 | 0.20836 | 0.48826 | 0.91827 | 0.15449 | 0.55507 |
|   |    |    |    |
|---|----|----|----|
| C268 | 0.7873 | 0.23965 | 0.4418 |
| C269 | 0.84134 | 0.22978 | 0.46587 |
| C270 | 0.77961 | 0.1947 | 0.37867 |
| H147 | 0.82054 | 0.14863 | 0.39521 |
| C271 | 0.89549 | 0.22008 | 0.49945 |
| C272 | 0.93817 | 0.16623 | 0.57855 |
| H148 | 0.92777 | 0.1289 | 0.5766 |
| C273 | 0.77476 | 0.2729 | 0.46712 |
| C274 | 0.76644 | 0.22803 | 0.4151 |
| C275 | 0.829 | 0.26331 | 0.46388 |
| H149 | 0.76375 | 0.18582 | 0.34514 |
| C276 | 0.8346 | 0.25386 | 0.46057 |
| C277 | 0.92719 | 0.19863 | 0.54685 |
| H150 | 0.96298 | 0.14997 | 0.6195 |
| C278 | 0.74151 | 0.29417 | 0.48478 |
| C279 | 0.79602 | 0.28462 | 0.46877 |
| C280 | 0.73361 | 0.24969 | 0.42226 |
| C281 | 0.8503 | 0.27505 | 0.45155 |
| C282 | 0.90361 | 0.2664 | 0.42791 |
| H151 | 0.94398 | 0.20677 | 0.56368 |
| C283 | 0.72928 | 0.32786 | 0.52406 |
| C284 | 0.72153 | 0.28175 | 0.46067 |
| C285 | 0.78368 | 0.31815 | 0.46932 |
| H152 | 0.71728 | 0.24105 | 0.39984 |
| C286 | 0.83793 | 0.30832 | 0.42348 |
| C287 | 0.89179 | 0.29649 | 0.38651 |
| H153 | 0.92934 | 0.25068 | 0.42915 |
| C288 | 0.75059 | 0.33961 | 0.50253 |
| C289 | 0.6973 | 0.34923 | 0.58224 |
| H154 | 0.69578 | 0.29751 | 0.46716 |
| C290 | 0.8046 | 0.32991 | 0.43737 |
| C291 | 0.85897 | 0.32002 | 0.38486 |
| H155 | 0.90826 | 0.30723 | 0.35626 |
| C292 | 0.73894 | 0.37293 | 0.51892 |
| C293 | 0.68627 | 0.38148 | 0.61637 |
| H156 | 0.68032 | 0.34109 | 0.60613 |
| C294 | 0.79225 | 0.36343 | 0.41729 |
| C295 | 0.84601 | 0.35323 | 0.33817 |
| C296 | 0.70637 | 0.39329 | 0.58264 |
| H157 | 0.66123 | 0.3976 | 0.66707 |
| C297 | 0.81416 | 0.37383 | 0.34929 |
| H158 | 0.86219 | 0.36199 | 0.29272 |
| H159 | 0.69676 | 0.41879 | 0.60566 |
| H160 | 0.80497 | 0.39902 | 0.30767 |
| C298 | 0.73478 | 0.69928 | 0.5019 |
| C299 | 0.71088 | 0.70832 | 0.6896 |
| C300 | 0.73944 | 0.67613 | 0.3308 |
|   |   |   |   |
|---|---|---|---|
| C301 | 0.69201 | 0.69458 | 0.702 |
| C302 | 0.70478 | 0.73227 | 0.87889 |
| C303 | 0.72034 | 0.66271 | 0.1248 |
| C304 | 0.7638 | 0.66565 | 0.1248 |
| C305 | 0.69643 | 0.67169 | 0.53357 |
| H161 | 0.6735 | 0.7017 | 0.84723 |
| H162 | 0.68452 | 0.75571 | 0.83596 |
| H163 | 0.69893 | 0.72541 | 0.05689 |
| H164 | 0.72506 | 0.73526 | 0.90015 |
| H165 | 0.72372 | 0.64554 | 0.21136 |
| H166 | 0.78544 | 0.64337 | 0.16856 |
| H167 | 0.7552 | 0.66101 | 0.96111 |
| H168 | 0.77058 | 0.68325 | 0.07624 |
| C306 | 0.67512 | 0.6593 | 0.54482 |
| C307 | 0.68108 | 0.63305 | 0.42568 |
| H169 | 0.65323 | 0.67263 | 0.65765 |
| C308 | 0.65994 | 0.62059 | 0.41154 |
| H170 | 0.70447 | 0.61831 | 0.33684 |
| C309 | 0.62765 | 0.64045 | 0.39953 |
| N10  | 0.67411 | 0.58886 | 0.39949 |
| C310 | 0.60679 | 0.62731 | 0.40725 |
| C311 | 0.61437 | 0.6739 | 0.37047 |
| C312 | 0.65656 | 0.57522 | 0.3901 |
| C313 | 0.62278 | 0.59369 | 0.40678 |
| C314 | 0.57241 | 0.64906 | 0.41859 |
| N11  | 0.60683 | 0.7 | 0.33385 |
| C315 | 0.67284 | 0.54054 | 0.38268 |
| C316 | 0.60655 | 0.57626 | 0.42279 |
| H171 | 0.56523 | 0.67429 | 0.41125 |
| C317 | 0.54943 | 0.64151 | 0.44607 |
| H172 | 0.65798 | 0.52997 | 0.37114 |
| C318 | 0.70444 | 0.52127 | 0.39911 |
| N12  | 0.59538 | 0.56063 | 0.44153 |
| H173 | 0.55615 | 0.61645 | 0.46173 |
| C319 | 0.5152 | 0.66395 | 0.4608 |
| H174 | 0.71909 | 0.53203 | 0.4161 |
| C320 | 0.71985 | 0.48658 | 0.41059 |
| C321 | 0.49558 | 0.65567 | 0.60096 |
| C322 | 0.50071 | 0.69289 | 0.33328 |
| C323 | 0.71094 | 0.47048 | 0.25863 |
| C324 | 0.74306 | 0.46883 | 0.57897 |
| C325 | 0.46316 | 0.67745 | 0.63516 |
| H175 | 0.50586 | 0.63308 | 0.6986 |
| C326 | 0.46786 | 0.71134 | 0.32159 |
| H176 | 0.51507 | 0.70008 | 0.22124 |
| C327 | 0.72447 | 0.43759 | 0.27199 |
| H177 | 0.69372 | 0.48358 | 0.11942 |
|     | x    | y    | z    |
|-----|------|------|------|
| C328| 0.75606 | 0.436 | 0.60405 |
| H178| 0.75012 | 0.48103 | 0.70162 |
| C329| 0.44852 | 0.70463 | 0.48276 |
| C330| 0.44583 | 0.67136 | 0.84154 |
| C331| 0.45514 | 0.73622 | 0.79671 |
| C332| 0.74677 | 0.41991 | 0.44946 |
| H179| 0.44698 | 0.64855 | 0.82458 |
| H180| 0.45669 | 0.67041 | 0.01305 |
| H181| 0.42094 | 0.68996 | 0.86161 |
| H182| 0.46122 | 0.7546 | 0.15008 |
| H183| 0.4655 | 0.72531 | 0.9481 |
| H184| 0.42948 | 0.74799 | 0.11515 |
| H185| 0.69157 | 0.4252 | 0.14325 |
| H186| 0.71212 | 0.43403 | 0.91288 |
| H187| 0.73164 | 0.39718 | 0.06701 |
| H188| 0.80332 | 0.4138 | 0.73417 |
| H189| 0.7733 | 0.4335 | 0.96054 |
| H190| 0.7814 | 0.39651 | 0.85195 |
| C335| 0.39463 | 0.71188 | 0.4434 |
| C336| 0.39876 | 0.75645 | 0.53129 |
| C337| 0.36086 | 0.73153 | 0.45659 |
| C338| 0.40793 | 0.67878 | 0.39028 |
| C339| 0.36541 | 0.77868 | 0.50867 |
| C340| 0.4164 | 0.77246 | 0.5958 |
| C341| 0.34162 | 0.71759 | 0.44805 |
| C342| 0.34652 | 0.76486 | 0.47888 |
| C343| 0.38953 | 0.66551 | 0.38015 |
| H191| 0.43362 | 0.6636 | 0.36047 |
| C344| 0.3511 | 0.81242 | 0.5221 |
| C345| 0.40207 | 0.80493 | 0.62062 |
| H192| 0.44176 | 0.75751 | 0.6251 |
| C346| 0.30805 | 0.73694 | 0.47318 |
| C347| 0.35588 | 0.68424 | 0.41874 |
| C348| 0.31286 | 0.78455 | 0.47402 |
| H193| 0.40059 | 0.64006 | 0.34325 |
| C349| 0.31758 | 0.83247 | 0.47588 |
| C350| 0.36992 | 0.82494 | 0.57874 |
| H194| 0.41615 | 0.81524 | 0.67043 |
| C351| 0.28699 | 0.72282 | 0.48946 |
| C352| 0.29383 | 0.77069 | 0.47566 |
| C353| 0.33646 | 0.67085 | 0.42464 |
| C354| 0.29676 | 0.81828 | 0.46204 |
| C355| 0.30297 | 0.8656 | 0.44132 |
| H195| 0.35979 | 0.8506 | 0.5962 |
| C356| 0.25484 | 0.74303 | 0.52928 |
|   |   |   |   |
|---|---|---|---|
| C357 | 0.30399 | 0.68959 | 0.46393 |
| C358 | 0.26015 | 0.79042 | 0.47447 |
| H196 | 0.3472  | 0.64517 | 0.4005  |
| C359 | 0.26561 | 0.83751 | 0.42994 |
| C360 | 0.27115 | 0.88415 | 0.39431 |
| H197 | 0.31686 | 0.8773  | 0.44566 |
| C361 | 0.24077 | 0.77672 | 0.50725 |
| C362 | 0.23524 | 0.73065 | 0.58913 |
| H198 | 0.28999 | 0.67783 | 0.46959 |
| C363 | 0.2462  | 0.82363 | 0.44225 |
| C364 | 0.25183 | 0.87073 | 0.38997 |
| H199 | 0.26085 | 0.90973 | 0.36297 |
| C365 | 0.20713 | 0.79705 | 0.5251  |
| C366 | 0.20252 | 0.75071 | 0.62423 |
| H200 | 0.24516 | 0.70505 | 0.61403 |
| C367 | 0.21262 | 0.84325 | 0.42381 |
| C368 | 0.21886 | 0.8892  | 0.34209 |
| C369 | 0.18859 | 0.7631  | 0.59015 |
| H201 | 0.18775 | 0.74048 | 0.67634 |
| C370 | 0.20023 | 0.87602 | 0.3566  |
| H202 | 0.20853 | 0.91439 | 0.29399 |
| H203 | 0.16282 | 0.79804 | 0.61469 |
| H204 | 0.17513 | 0.89088 | 0.31789 |
| C371 | 0.41349 | 0.72512 | 0.48656 |
| C372 | 0.19307 | 0.83034 | 0.47445 |
| C373 | 0.75441 | 0.71445 | 0.48267 |
| C374 | 0.85138 | 0.83548 | 0.49483 |
| C375 | 0.86531 | 0.16309 | 0.46981 |
| C376 | 0.7598  | 0.38492 | 0.46582 |
Table S7.
ASA calculation simulated directly from the structure using the rolling-ball method

|                         | DBOV-COF |
|-------------------------|----------|
| ASA Surface Area        | 1464.47 m²/g |
| Unit Cell Volume        | 13893.3  |
| Density                 | 0.876658 |
| AV                      | 0.226041 cm³/g |

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