

Harvard Forest Data Archive HF421-08

Data File:

Name = hf421-08-photosynthesis-light-response.csv  
Description = light response curves  
Rows = 240 Columns = 46  
MD5 checksum = f7fea3d6d8490667f71979e40bc6cb73

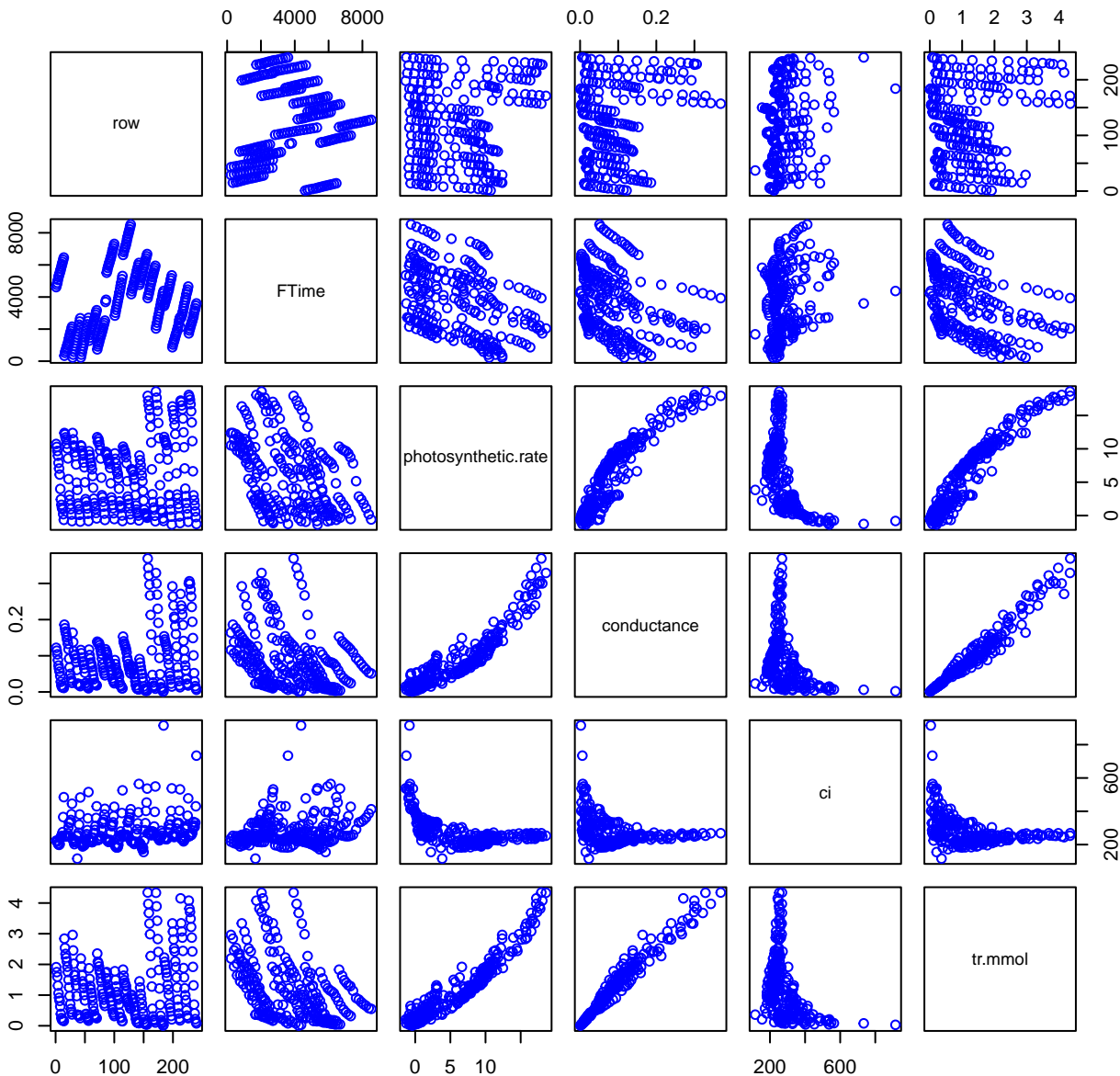
Variables:

FTime = flow time (second)  
photosynthetic.rate = measurement of photosynthetic rate  
(micromolePerMeterSquaredPerSecond)  
conductance = conductance to H2O (molePerMeterSquaredPerSecond)  
ci = intercellular CO2 concentration  
(micromolePerMeterSquaredPerSecond)  
tr.mmol = transpiration rate (millimolePerMeterSquaredPerSecond)  
vpd = vapour pressure deficit based on leaf temperature (kilopascal)  
ct.leaf = temperature of leaf thermocouple (celsius)  
area = in-chamber leaf area on which the measurement was performed  
(centimeterSquared)  
BLC\_1 = one-side boundary layer conductance  
(molePerMeterSquaredPerSecond)  
StmRat = stomatal ratio estimate (dimensionless)  
BLCond = total boundary layer conductance  
(molePerMeterSquaredPerSecond)  
t.air = air temperature (celsius)  
t.leaf = leaf temperature (celsius)  
t.bulk = bulk temperature (celsius)  
co2.r = CO2 concentration in the reference cell (micromolePerMole)  
co2.s = CO2 concentration in the sample cell (micromolePerMole)  
h2o.r = H2O concentration in the reference cell (micromolePerMole)  
h2o.s = H2O concentration in the sample cell (micromolePerMole)  
rh.r = relative humidity in the reference cell (dimensionless)  
rh.s = relative humidity in the sample cell (dimensionless)  
flow = flow rate (millimolePerSecond)  
par.i = photosynthetically active radiation inside the chamber  
(micromolePerMeterSquaredPerSecond)  
par.o = photosynthetically active radiation outside the chamber  
(micromolePerMeterSquaredPerSecond)  
press = atmospheric pressure photosynthetically active radiation  
inside the chamber (kilopascal)  
CsMch = sample CO2 offset (micromolePerMole)  
HsMch = sample H2O offset (millimolePerSecond)  
StableF = flag whether the feed flow is stable (dimensionless)  
BLCslope = slope of the boundary layer conductance of the leaf  
(dimensionless)  
BLCoffst = offset of the boundary layer conductance of the leaf  
(micromolePerMeterSquaredPerSecond)  
t.air.k = air temperature (kelvin)

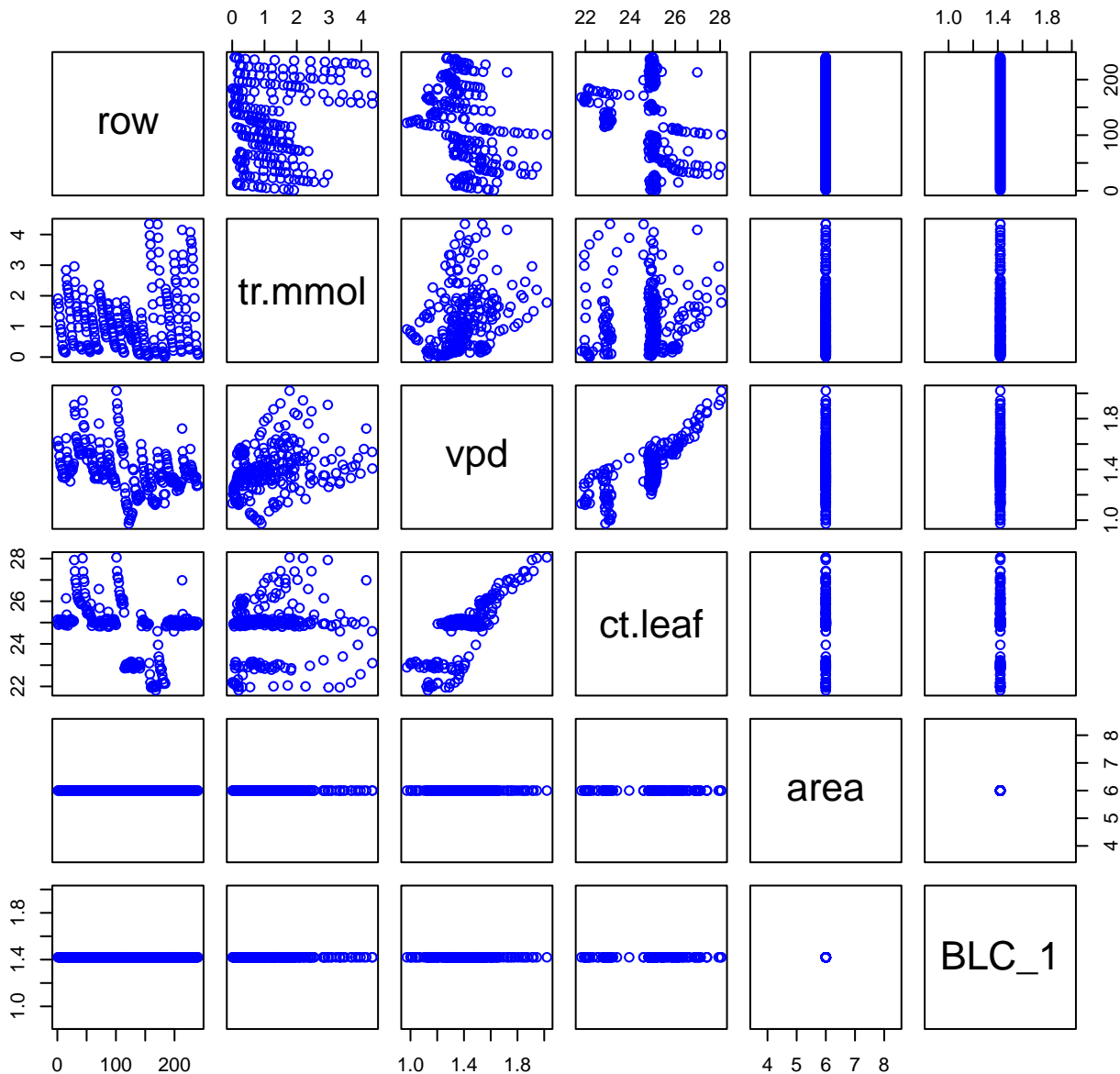
t.wall.k = wall temperature (kelvin)  
rad = flag whether radians are used for trigonometrics functions  
(dimensionless)  
Tl.Ta = difference in leaf and air temperature (celsius)  
CndTotal = total conductance (micromolePerMeterSquaredPerSecond)  
vp\_kPa = vapour pressure (kilopascal)  
vpd.a = vapour pressure deficit based on air temperature  
(kilopascal)  
CndCO2 = CO2 conductance (micromolePerMeterSquaredPerSecond)  
ci.Pa = intercellular CO2 concentration (micromolePerMole)  
Ci.Ca = ratio of intercellular over ambient CO2 concentration  
(micromolePerMole)

Variable	Min	Median	Mean	Max	NAs
FTime	226.000	3582.000	3699.875	8519.500	0
photosynthet	-1.349	5.895	6.133	18.594	0
conductance	0.001	0.070	0.089	0.369	0
ci	115.999	253.746	282.622	915.022	1
tr.mmol	0.006	0.981	1.205	4.342	0
vpd	0.973	1.373	1.397	2.020	0
ct.leaf	21.819	24.983	24.735	28.056	0
area	6.000	6.000	6.000	6.000	0
BLC_1	1.420	1.420	1.420	1.420	0
StmRat	0.000	0.000	0.000	0.000	0
BLCond	1.420	1.420	1.420	1.420	0
t.air	18.644	23.133	22.660	24.526	0
t.leaf	21.819	24.983	24.735	28.056	0
t.bulk	16.842	21.751	21.388	24.087	0
co2.r	396.812	400.000	399.983	404.431	0
co2.s	369.594	390.539	390.092	401.981	0
h2o.r	8.302	16.667	16.124	20.185	0
h2o.s	13.906	18.345	17.899	20.248	0
rh.r	35.440	57.772	56.481	66.792	0
rh.s	57.454	62.913	62.854	67.221	0
flow	399.653	399.768	400.100	400.736	0
par.i	0.463	398.946	581.479	2001.510	0
par.o	12.274	68.091	91.477	1223.488	0
press	96.842	97.127	97.253	97.765	0
CsMch	2.593	3.880	3.923	4.946	0
HsMch	-0.290	-0.179	-0.189	-0.107	0
StableF	0.000	1.000	0.875	1.000	0
BLCslope	-0.220	-0.220	-0.220	-0.220	0
BLCoffst	2.737	2.737	2.737	2.737	0
t.air.k	294.969	298.133	297.885	301.206	0
t.wall.k	291.794	296.283	295.810	297.676	0
rad	0.074	63.831	93.037	320.242	0
Tl.Ta	-0.808	-0.153	0.195	2.716	0
CndTotal	0.001	0.066	0.081	0.293	0
vp_kPa	1.350	1.785	1.741	1.963	0
vpd.a	0.946	1.219	1.207	1.479	0
CndCO2	0.000	0.042	0.051	0.189	0
ci.Pa	11.324	24.721	28.039	160.570	0
Ci.Ca	0.291	0.666	0.736	4.131	0

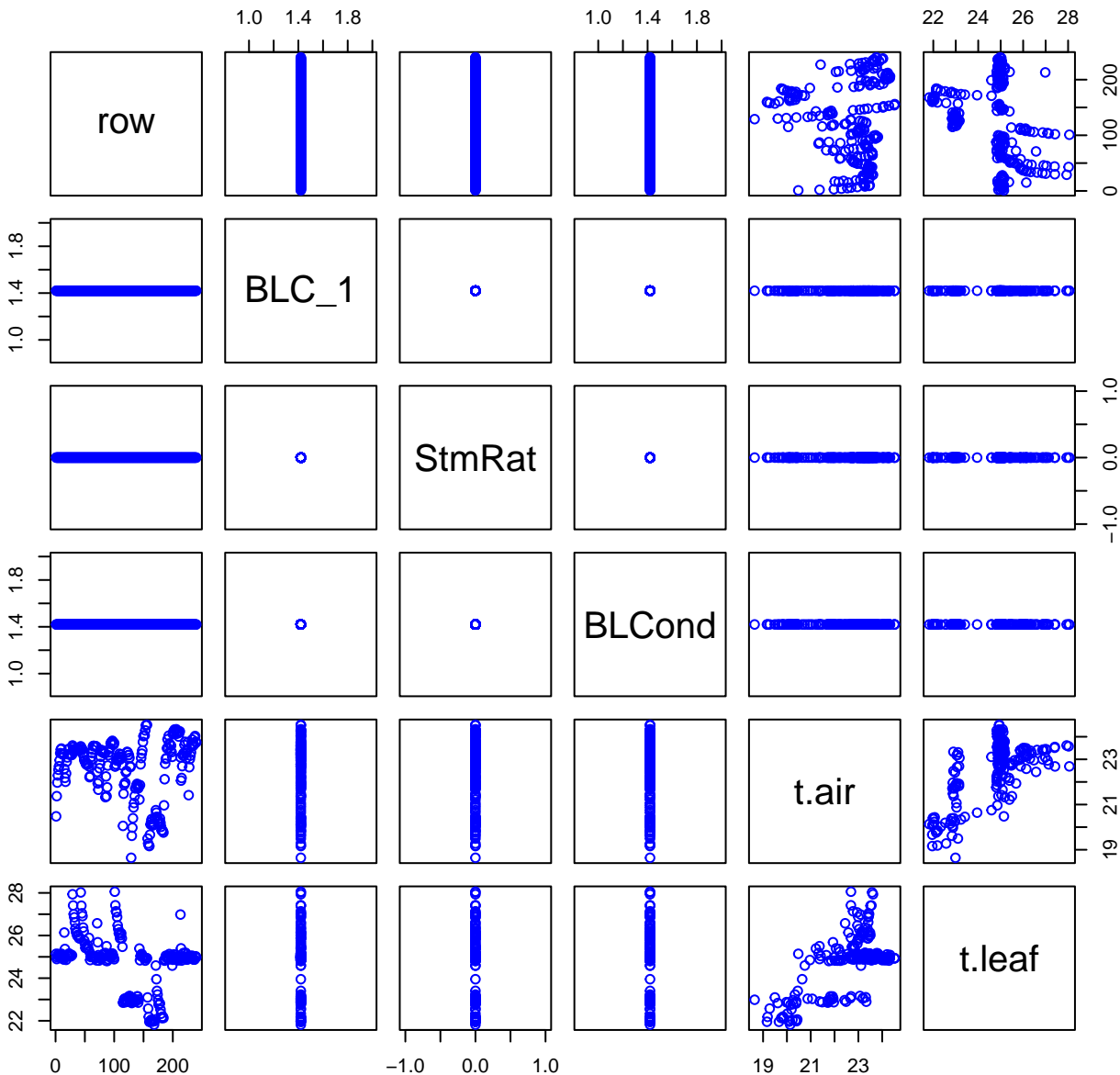
# HF421-08 Plot 1



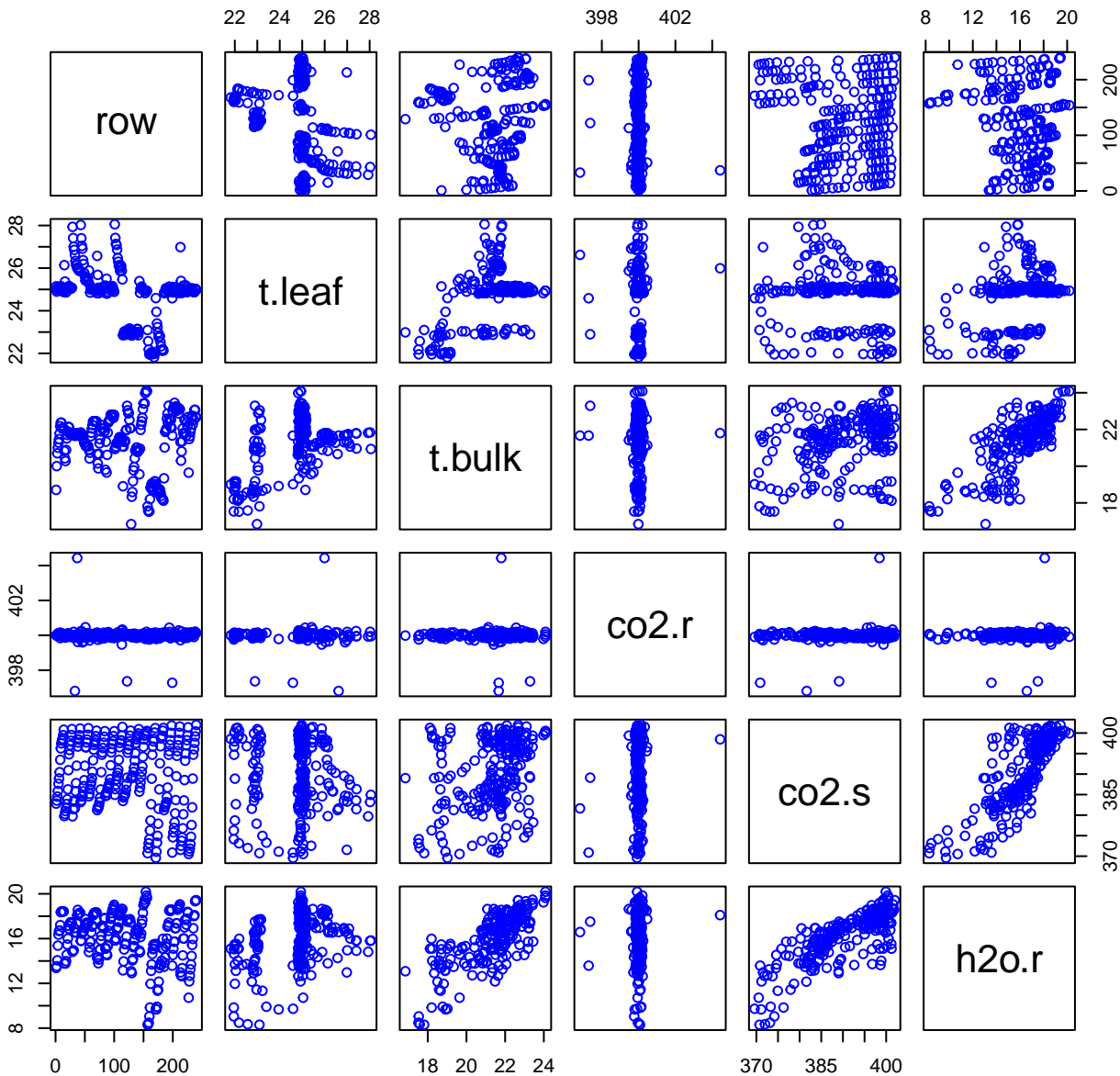
# HF421-08 Plot 2



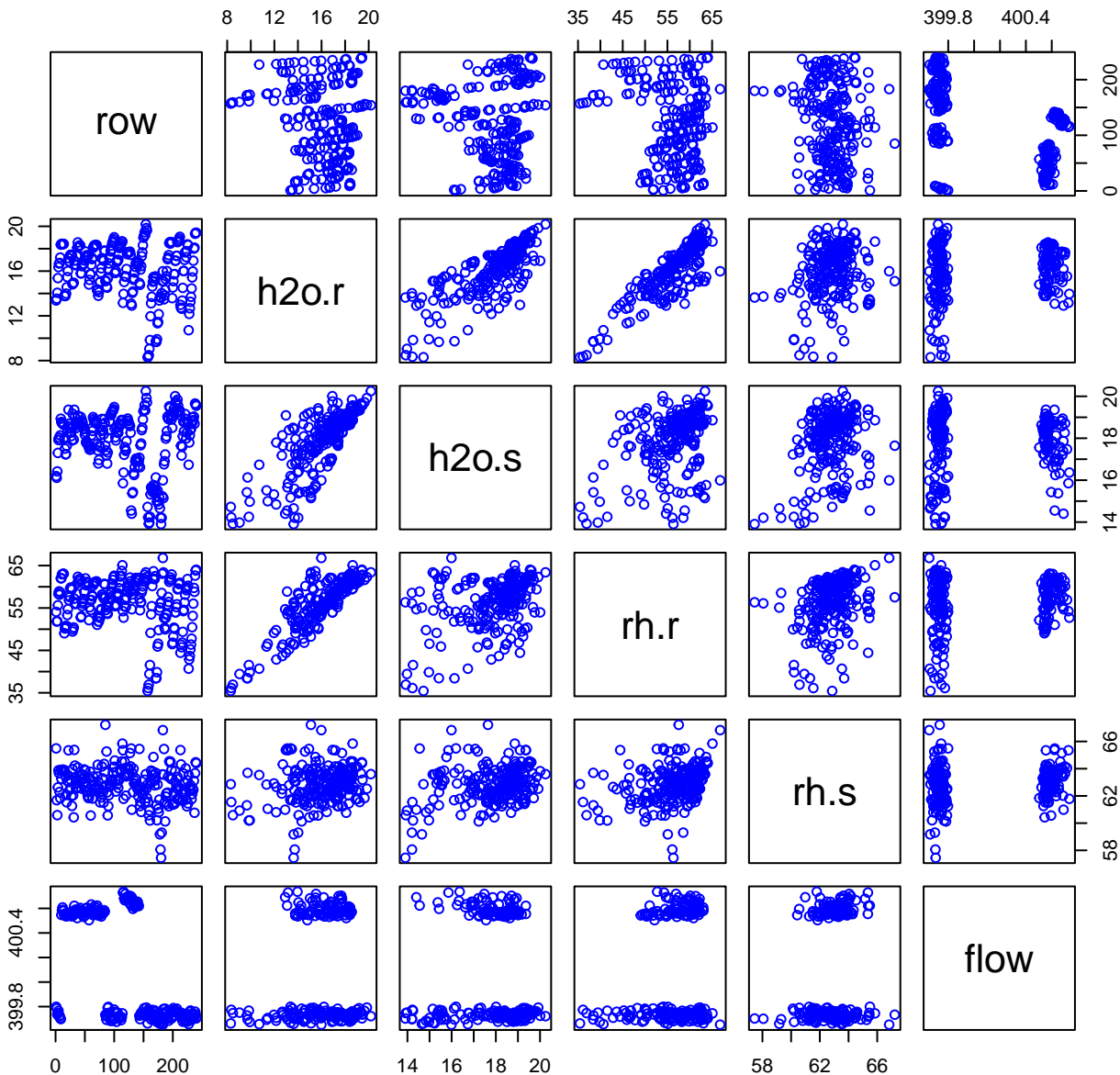
# HF421-08 Plot 3



# HF421-08 Plot 4

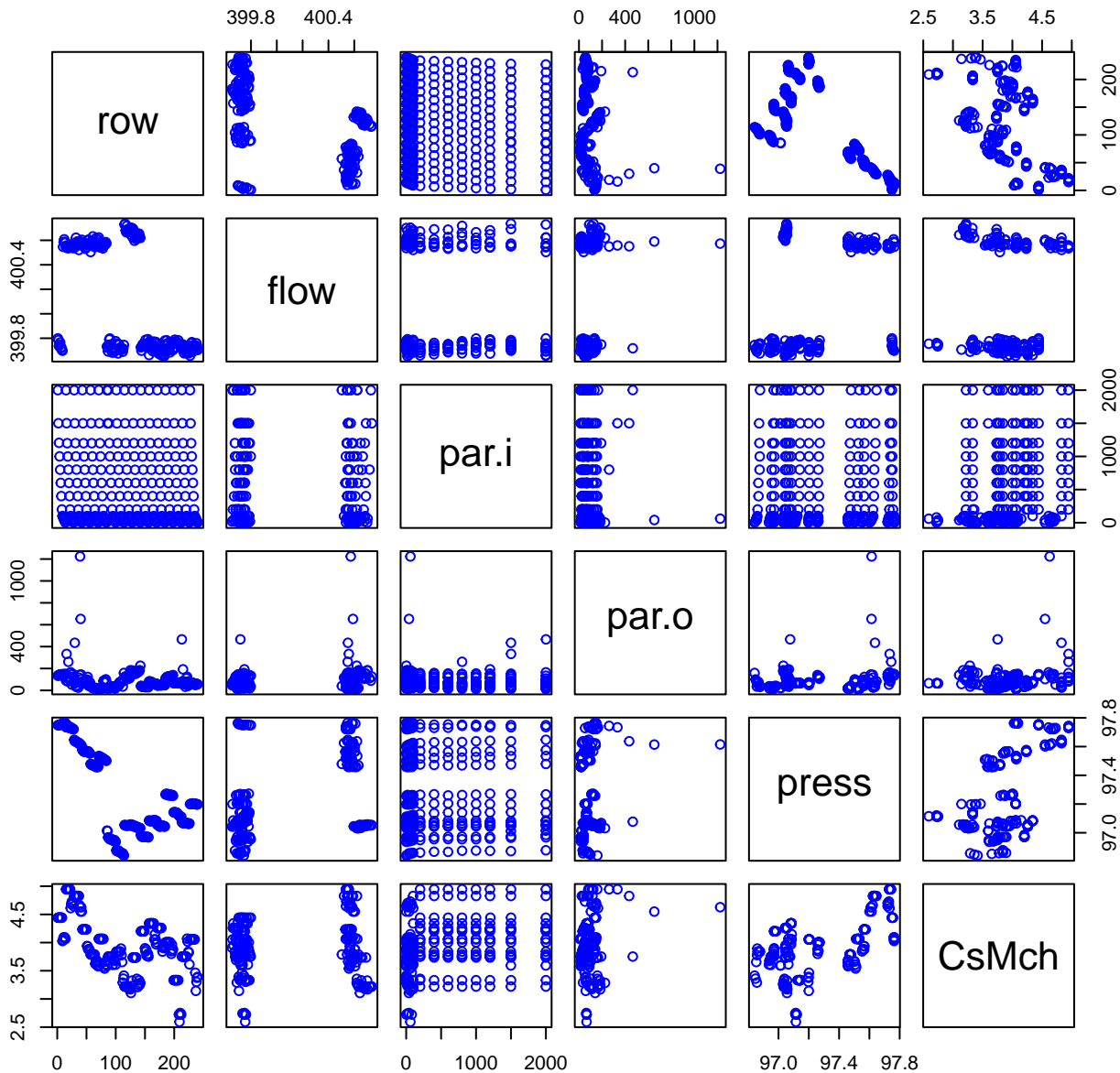


# HF421-08 Plot 5

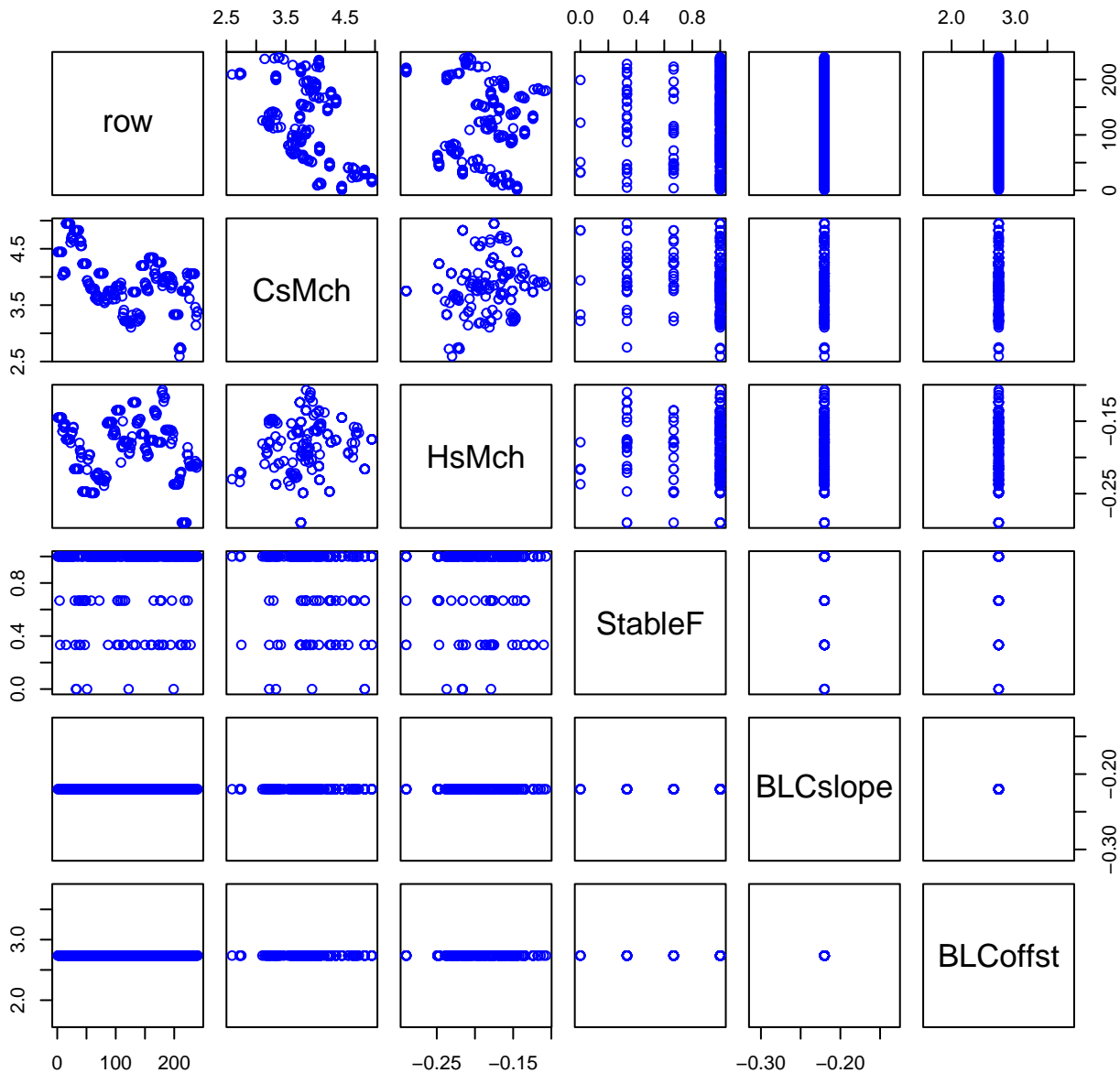




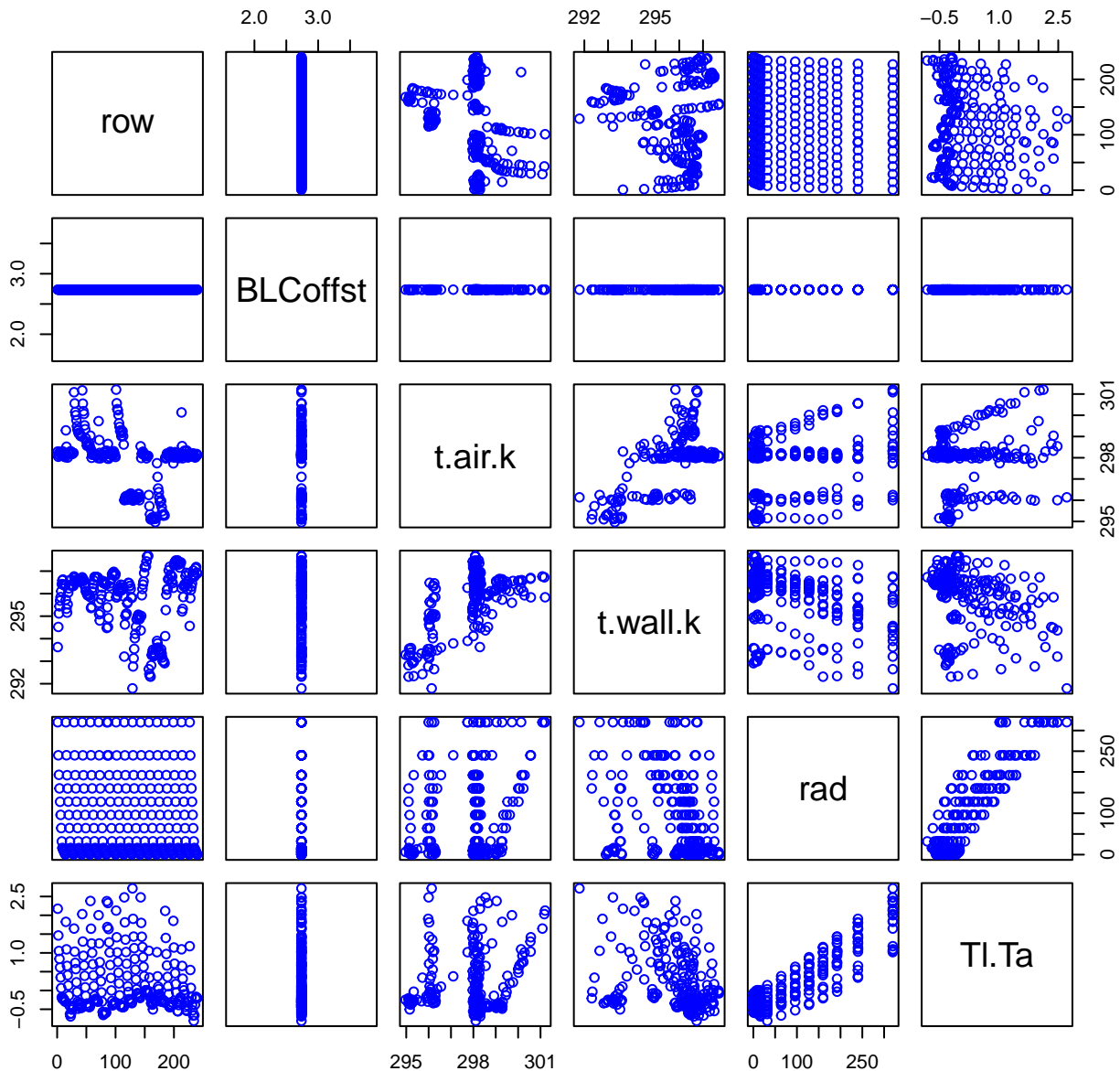
# HF421-08 Plot 6



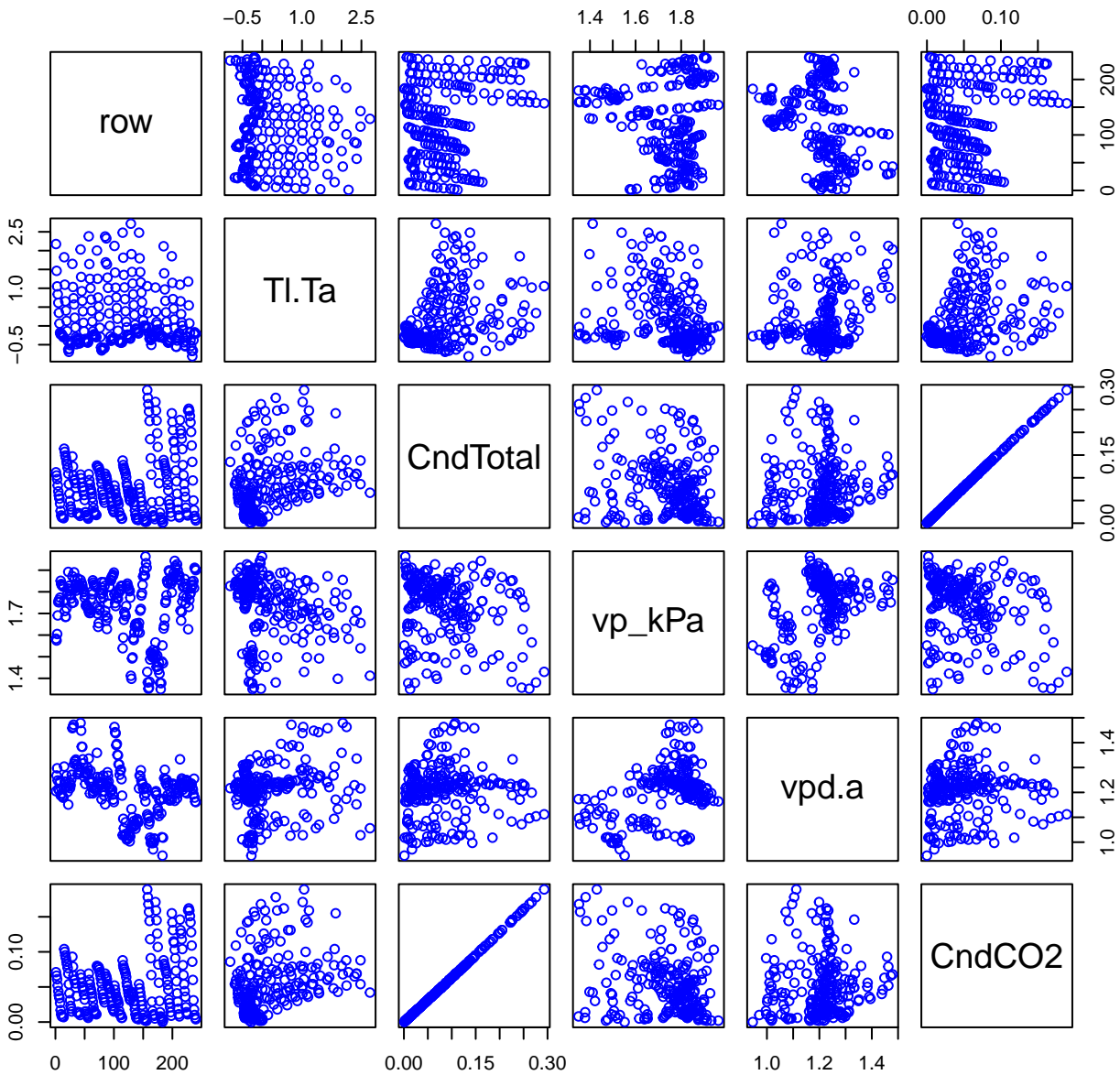
# HF421-08 Plot 7



# HF421-08 Plot 8



# HF421-08 Plot 9



# HF421-08 Plot 10

