Harvard Forest Data Archive HF224-03

Data File:

Name = hf224-03-co2-response.csv
Description = CO2 response curves
Rows = 2288 Columns = 42
MD5 checksum = 477aeba6eb7b224beb8b508342217ee9

Variables:

datetime = date and time of measurement
date = date sampled
year = year sampled
doy = corresponding day of the year (nominalDay)
photo = net assimilation in micromols CO2 per meter squared per

   second (micromolePerMeterSquaredPerSecond)
cond = conductance to H2O in millimols of H2O per meter squared per

   second (millimolePerMeterSquaredPerSecond)
ci = intercellular CO2 concentraion (calculated) in micromols CO2
   per
 mol (dimensionless)
trans = transpiration rate in millimol H2O per meter squared per

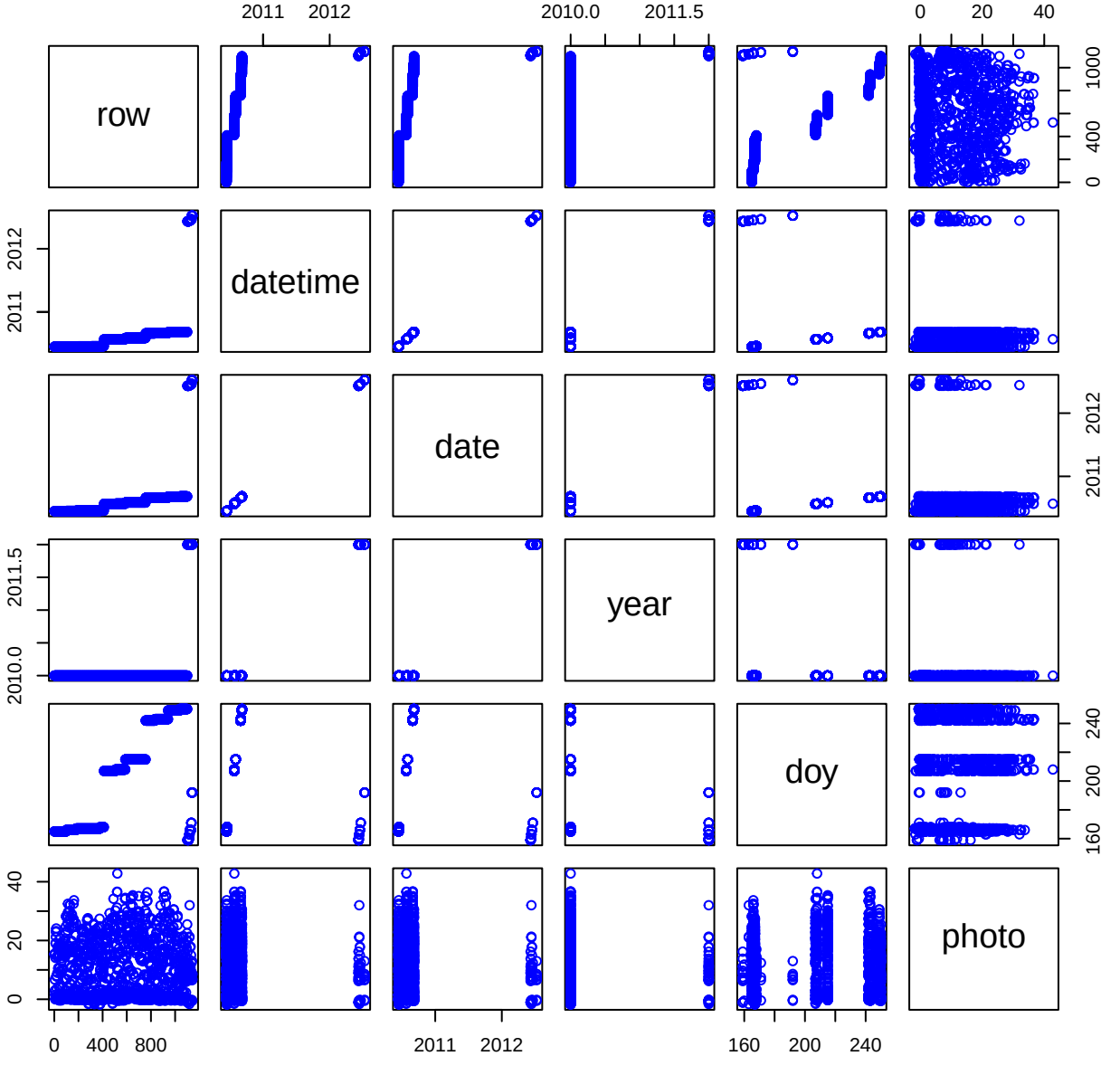
   second (millimolePerMeterSquaredPerSecond)
vpdl = vapour pressure deficit based on leaf
 temperature
   (kilopascal)
ctleaf = computed leaf temperature. Same as Tleaf unless doing
   energy
 balance (celsius)
area = total area of leaf enclosed within the chamber in
   centimeters
 squared (squareCentimeters)
stm.ratio = stomatal ratio used in calculations (dimensionless)
tair = temperature in sample cell (celsius)
tleaf = temperature of leaf thermocouple (celsius)
tblk = temperature of leaf thermocouple (celsius)
co2.r = reference cell CO2 concentration in micromol CO2 per mol

   (ppm) (dimensionless)
co2.s = sample cell CO2 concentration in micromol CO2 per mol
 (ppm)
   (dimensionless)
h2o.r = reference cell H2O concentration in millimol H2O per mol

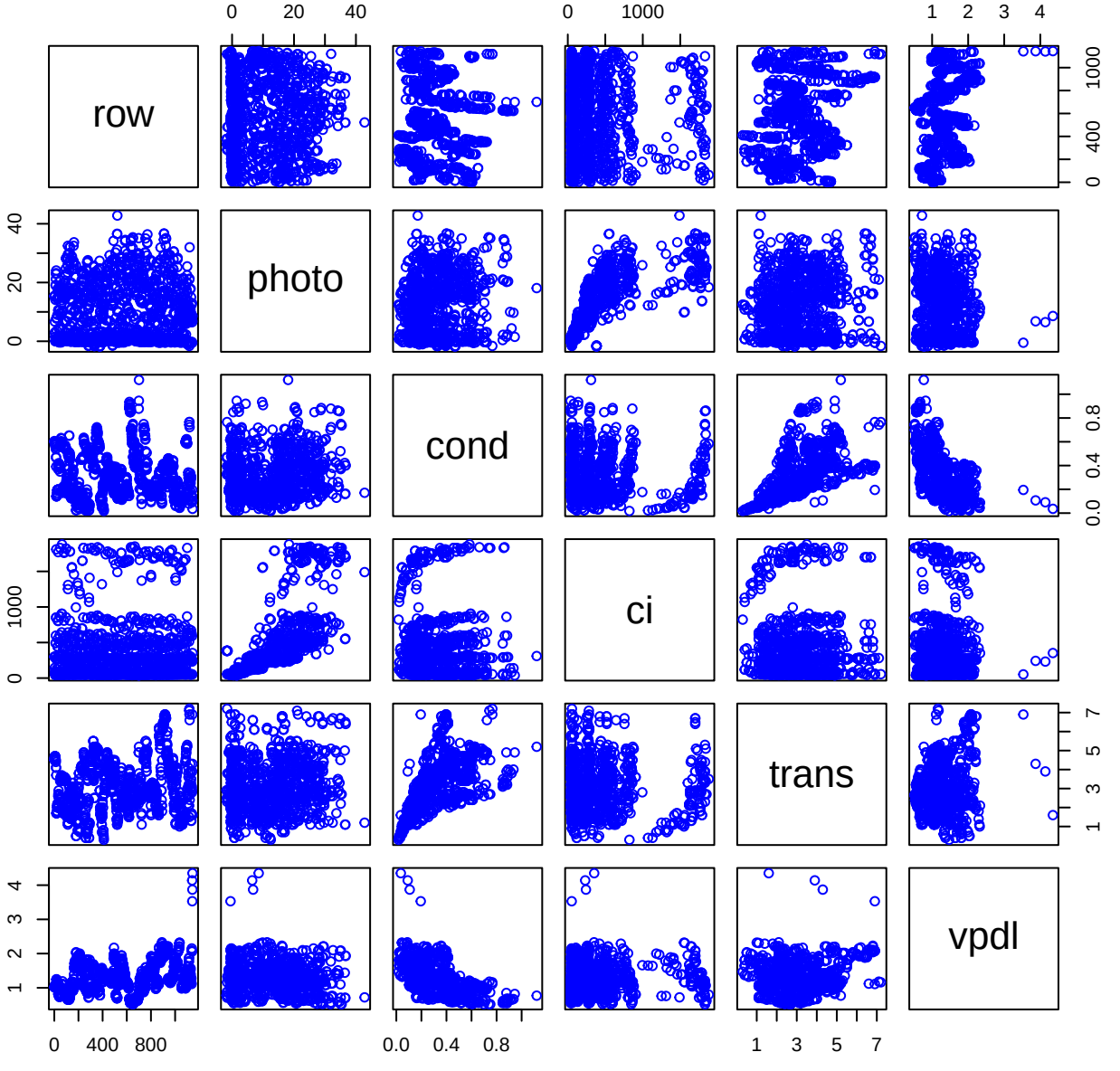
   (ppm) (dimensionless)
h2o.s = sample cell H2O concentration in millimol H2O per mol
 (ppm)
   (dimensionless)
rh.r = relative humidity in the reference cell (%) (dimensionless)
rh.s = relative humidity in the sample cell (%) (dimensionless)
flow = flow rate to the sample cell in micromols per
 second
   (micromolePerSecond)
par.in = quantum sensor inside the chamber
   (micromolePerMeterSquaredPerSecond)
par.out = external quantum sensor
   (micromolePerMeterSquaredPerSecond)
press = atmospheric pressure (kilopascal)
stability = stability status (dimensionless)
leaf.n = leaf nitrogen in milligrams of N per gram of dry
 leaf
   (milligramPerGram)

Variable	Min	Median	Mean	Max	NAs
datetime	2010-06-14T09:30			2012-07-10T11:18	0
date	2010-06-14	2010-07-27	2010-08-19	2012-07-10	0
year	2010.000	2010.000	2010.077	2012.000	0
doy	159.000	208.000	203.898	250.000	0
photo	-2.000	12.000	12.053	43.100	0
cond	0.017	0.280	0.318	1.120	0
ci	38.000	272.000	409.195	1880.000	0
trans	0.300	2.900	3.110	7.200	0
vpdl	0.520	1.250	1.293	4.490	0
ctleaf	21.100	24.700	25.343	36.300	2200
area	3.000	6.000	5.926	6.000	0
stm.ratio	0.000	0.000	0.020	0.500	95
tair	20.200	25.300	25.407	40.000	0
tleaf	21.100	26.200	26.311	36.300	0
tblk	19.900	25.000	25.083	42.000	95
co2.r	44.000	380.000	530.465	2006.000	95
co2.s	42.000	363.000	513.478	1987.000	95
h2o.r	9.100	18.600	18.763	28.700	95
h2o.s	12.000	23.300	22.572	30.300	95
rh.r	17.000	54.000	55.774	84.000	95
rh.s	24.000	67.000	66.263	89.000	0
flow	399.000	500.000	488.659	501.000	95
par.in	0.000	1300.000	1308.941	1802.000	0
par.out	5.000	612.000	677.665	1704.000	0
press	96.100	97.200	97.054	97.700	95
stability	0.000	0.800	0.769	1.000	95
leaf.n	0.000	20.500	18.734	32.800	0

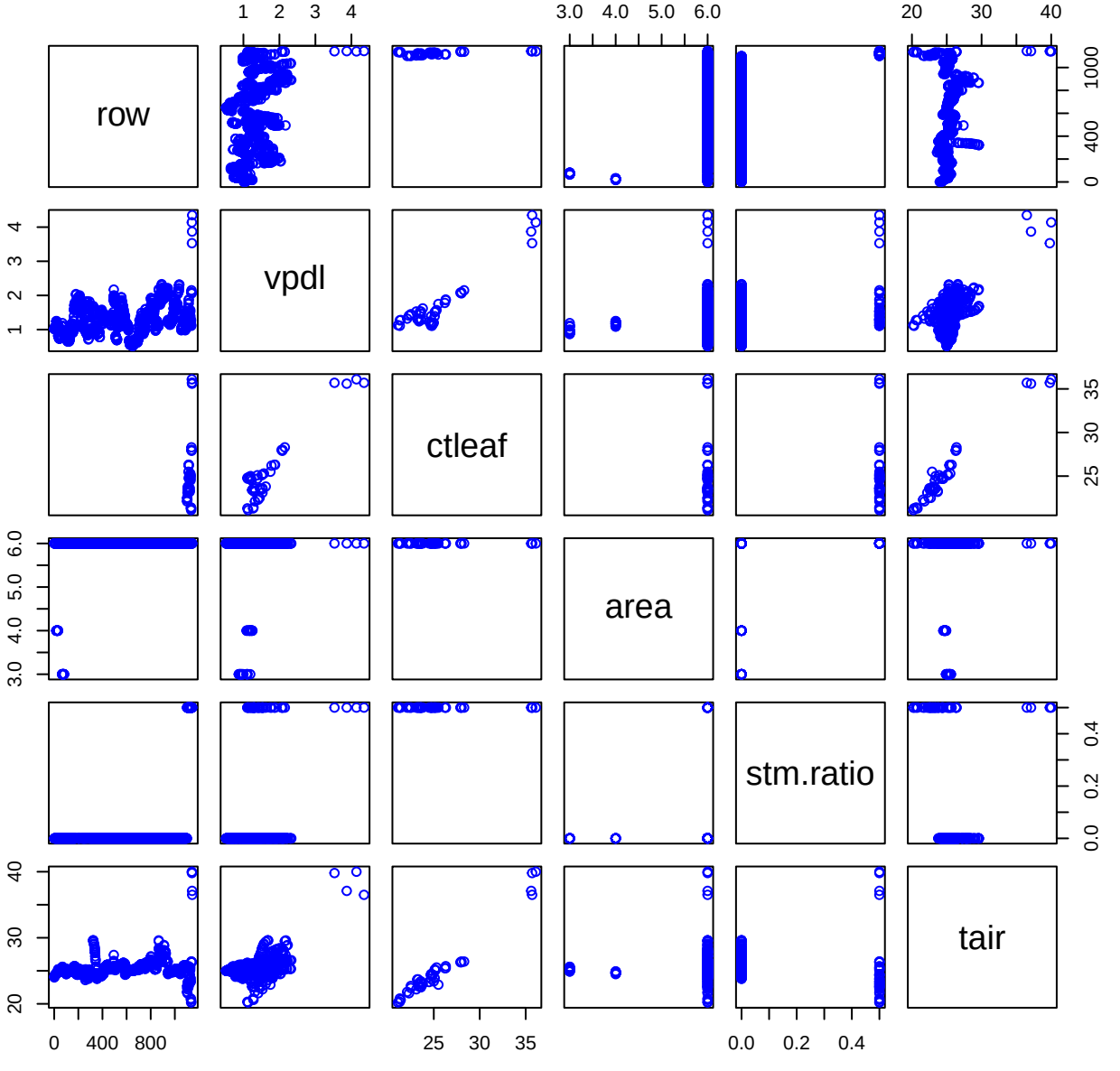
HF224−03 Plot 1



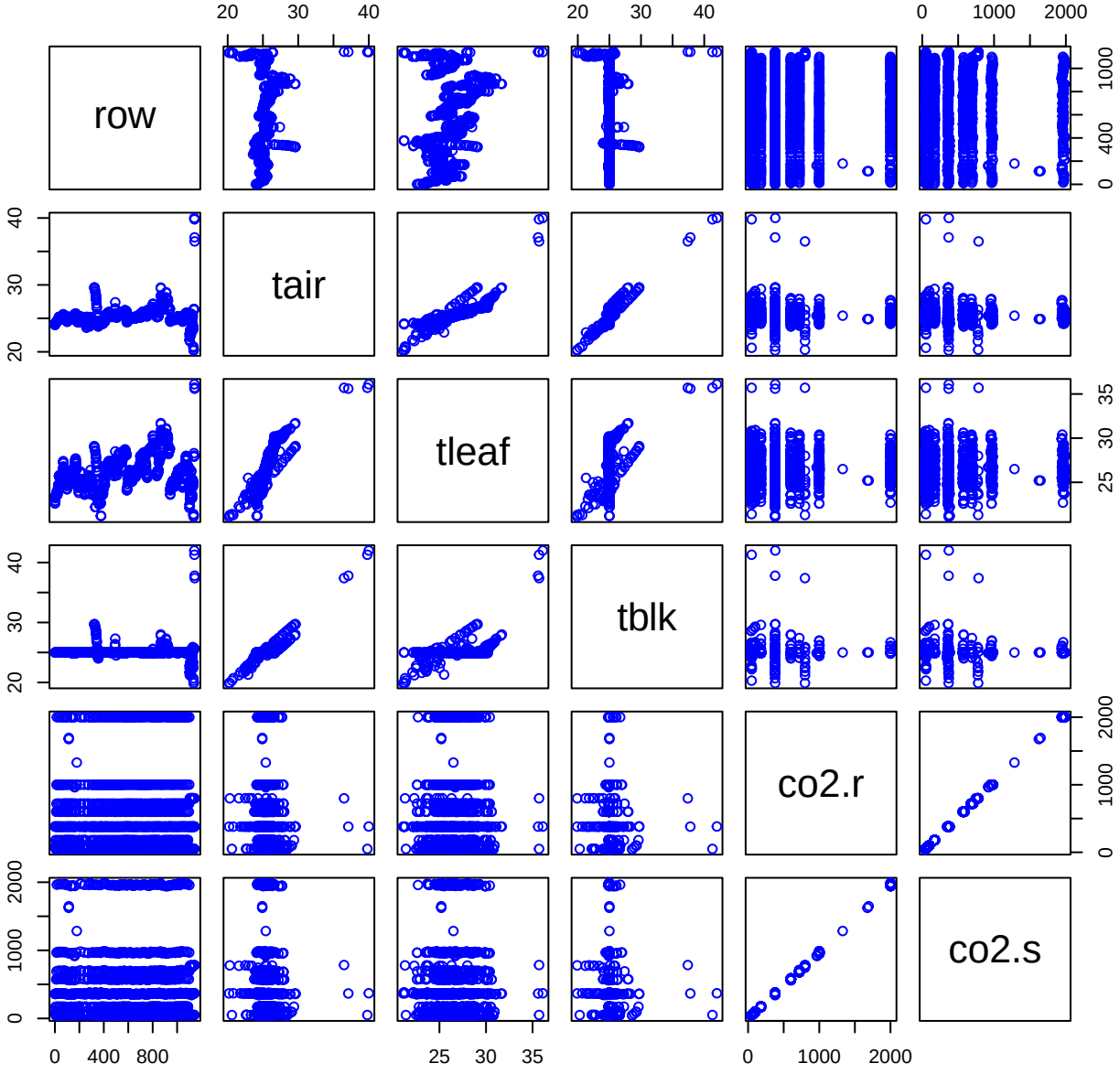
HF224−03 Plot 2

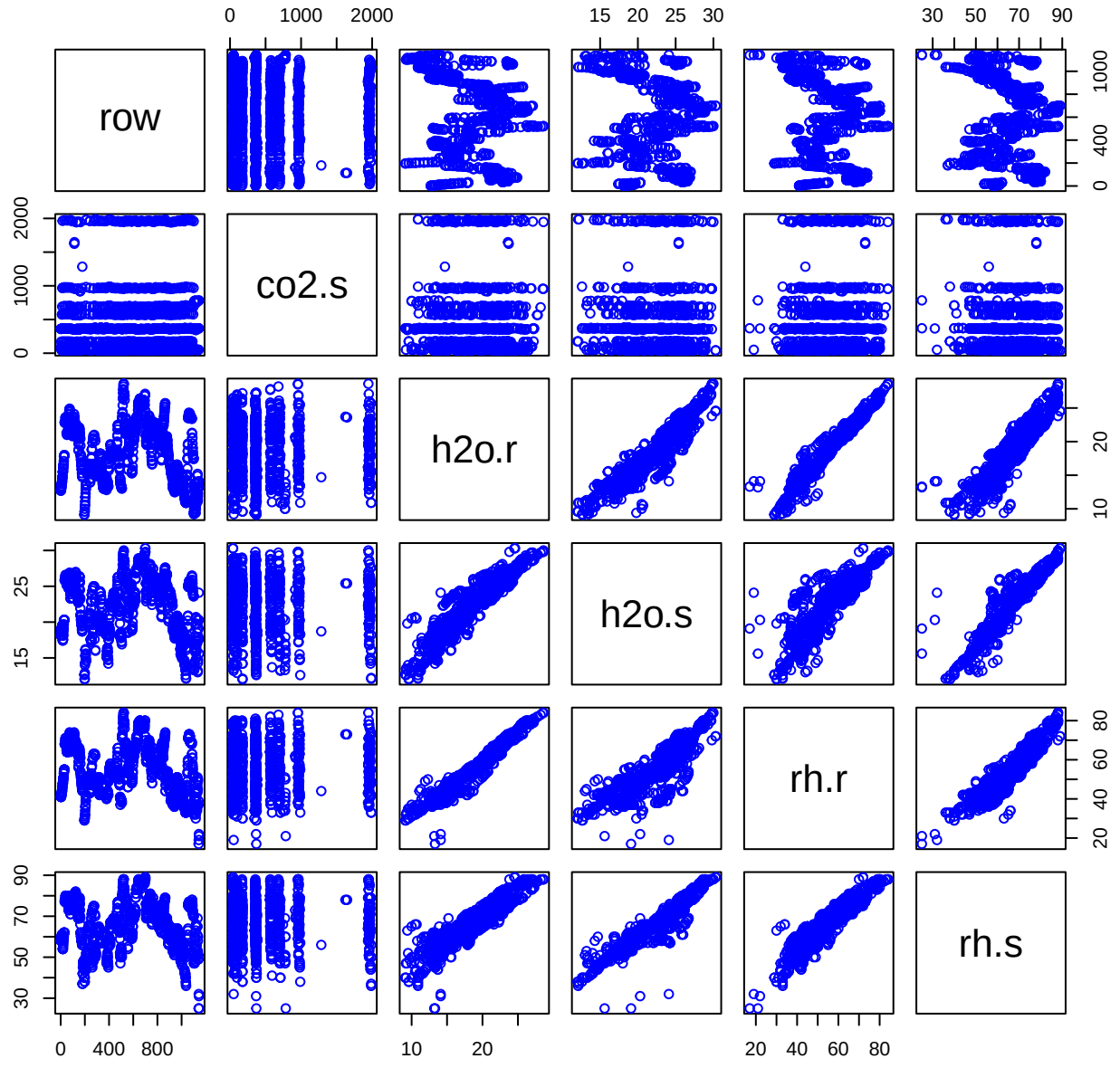


HF224−03 Plot 3

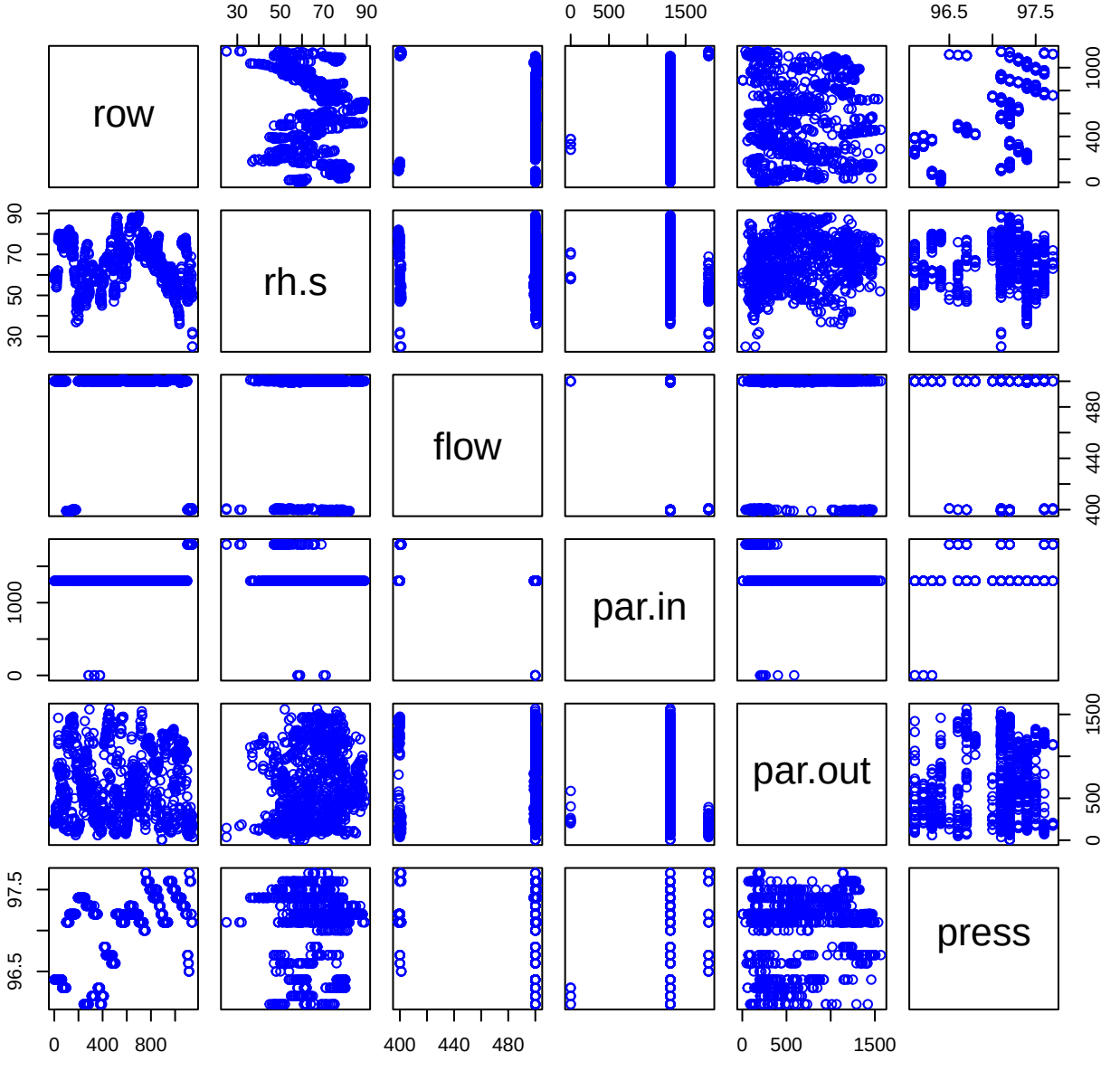


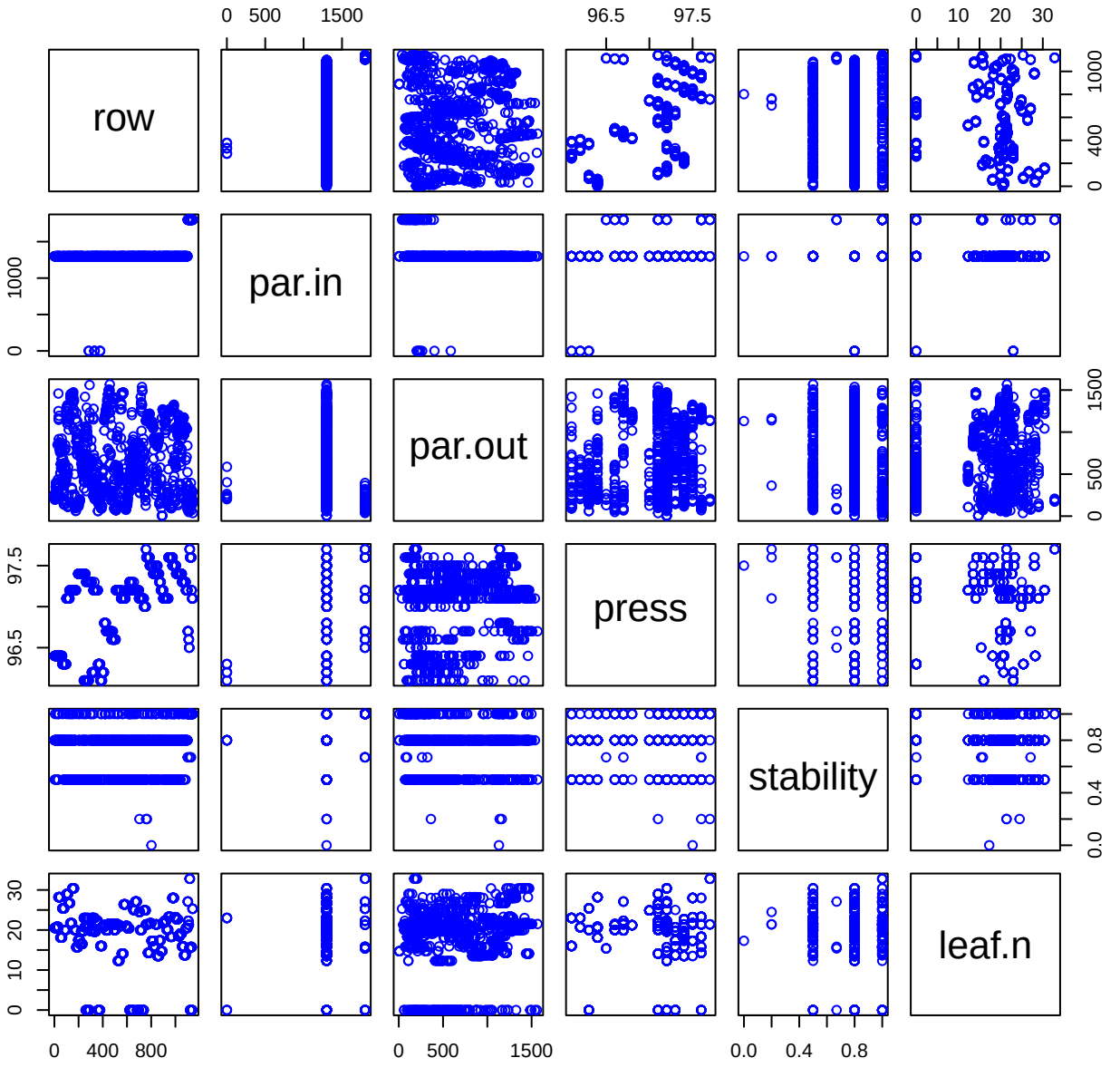
HF224−03 Plot 4




HF224−03 Plot 5
row
co2.s
h2o.r
h2o.s
rh.r
rh.s
0
1000
2000
15
20
25
30
30
50
70
90
0
400
800
10
20
20
40
60
80

HF224−03 Plot 6




HF224−03 Plot 7
row
par.in
par.out
press
stability
leaf.n
0 500 1500
96.5 97.5
0 10 20 30
0 400 1000
0 1000
0 500 1500
96.5 97.5
0.0 0.4 0.8
0 10 20 30
0 400 800
0 500 1500
0.0 0.4 0.8