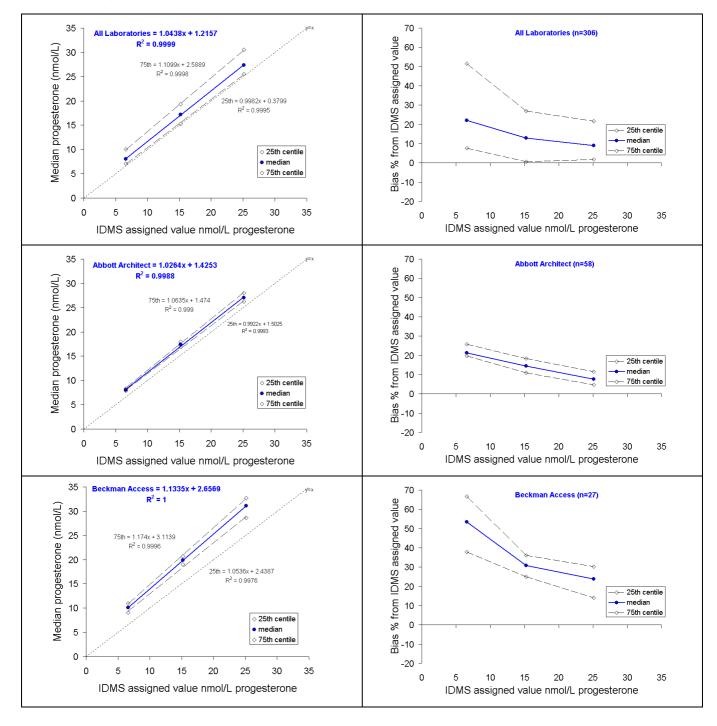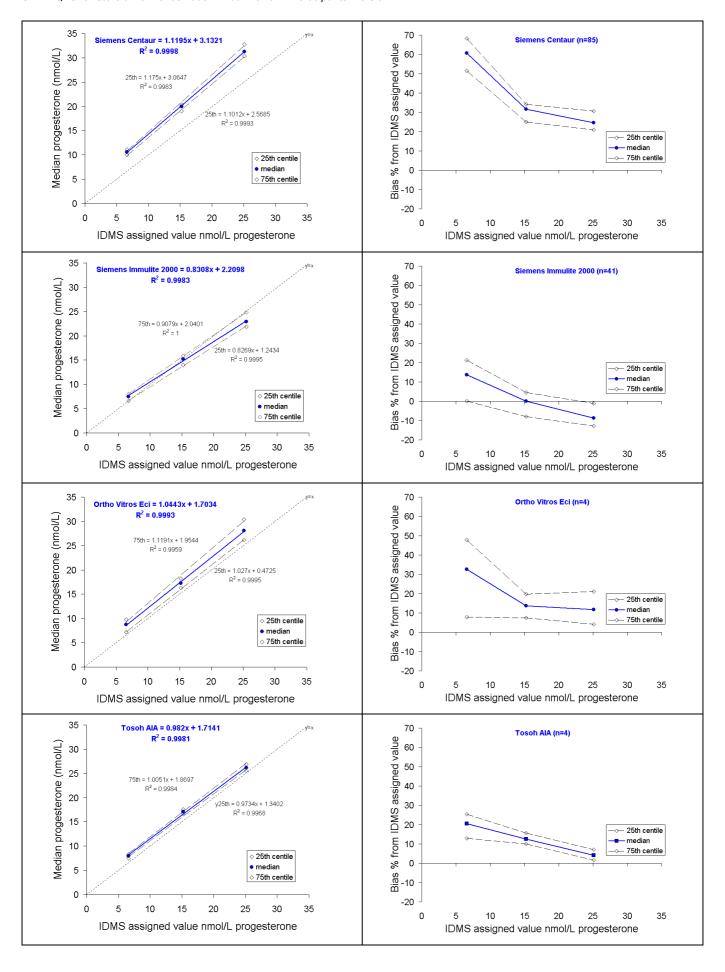# Progesterone GCMS Exercise July 2008 at Distribution 342

This is a repeat of previous exercises, where GCMS targeted pools were re-distributed. This exercise employed the materials shown in Table 1. The summary plots show regression and difference plots for all laboratories and individual method means. In each case the 25th, 50th, and 75th centiles are plotted.

Sample	342A	342B	342C
POOL	P346	P349	P351
ALTM	8.5	17.3	27.9
GCMS	6.6	15.2	25.1

The plots are self-explanatory and indicate where the problems lie. Participants should press manufacturers for methods with improved trueness; manufacturers should use the reference measurement system that has been in place for many years to improve their assays and help achieve true comparability of results. It is clear that once again, the Roche Elecsys and E170 methods are the most accurately calibrated.

Jonathan Middle, October 2008

Siemens Centaur = 1.1195x + 3.1321
R² = 0.9998

25th = 1.175x + 3.0647
R² = 0.9983

25th = 1.1012x + 2.5685
R² = 0.9993

Siemens Centaur (n=85)

Siemens Immulite 2000 = 0.8308x + 2.2098
R² = 0.9983

75th = 0.9079x + 2.0401
R² = 1

25th = 0.8269x + 1.2434
R² = 0.9995

Siemens Immulite 2000 (n=41)

Ortho Vitros Eci = 1.0443x + 1.7034
R² = 0.9993

75th = 1.1191x + 1.9544
R² = 0.9959

25th = 1.027x + 0.4725
R² = 0.9995

Ortho Vitros Eci (n=4)

Tosoh AIA = 0.982x + 1.7141
R² = 0.9981

75th = 1.0051x + 1.8697
R² = 0.9984

y25th = 0.9734x + 1.3402
R² = 0.9968

Tosoh AIA (n=4)

Roche Elecsys = 1.0285x + 0.0097
R^2 = 0.9988

75th = 1.0741x - 0.091
R^2 = 0.9994

25th = 0.9844x + 0.2099
R^2 = 0.9997

◇ 25th centile
● median
◇ 75th centile

Median progesterone (nmol/L)

IDMS assigned value nmol/L progesterone

Roche Elecsys (n=19)

Bias % from IDMS assigned value

25th centile
median
75th centile

IDMS assigned value nmol/L progesterone

Riche E170 Modular = 1.0339x - 0.0299
R^2 = 0.9988

75th = 1.0715x - 0.0425
R^2 = 0.9992

25th = 1.0049x - 0.0516
R^2 = 0.9996

◇ 25th centile
● median
◇ 75th centile

Median progesterone (nmol/L)

IDMS assigned value nmol/L progesterone

Roche E170 Modular (n=64)

Bias % from IDMS assigned value

25th centile
median
75th centile

IDMS assigned value nmol/L progesterone