

```

In[1]:= (* ternarni diagram 3.3.2012 Pavel Pokorny *)
(* nastavime si adresar, odkud budeme cist soubory *)
SetDirectory["/home/pokornp/kr3"];
(* precteme si excellovsky soubor *)
v = Import["TERNAR.XLS"];
(* bude mas zajimat prvni list *)
v1 = v[[1]];
(* najdeme tri dulezite radky a oznacime je n1,n2,n3 *)
Table[
  (* pripravime si i-tou radku *)
  r = v1[[i]];
  (* zajima nas prvni slovo *)
  w1 = r[[1]];
  (* zajima nas prvni znak, zatim inicializujeme napr. mezerou *)
  z1 = " ";
  (* je-li w1 string nenulove delky, zjistime prvni znak *)
  If[StringQ[w1], If[StringLength[w1] > 0, z1 = Characters[w1][[1]]];
  (* je-li to e, uloz cislo radky do n1, zde zacinaji exp. data *)
  If[z1 == "e", n1 = i];
  (* je-li to V, uloz cislo radky do n2, zde zacinaji vyp. data *)
  If[z1 == "V", n2 = i];
  (* cislo posledniho radku s daty uloz do n3 *)
  If[Length[r] == 8, If[NumberQ[r[[2]]], n3 = i]]
  , {i, Length[v1]};
(*prevod koncentraci na kartezske souradnice v rovine*)
c2c[{ca_, cb_}] := {(1 - ca + cb) / 2, (1 - ca - cb) Sqrt[3] / 2};
(*aby nepsal tecku za nulou a jednickou*)
nf[x_] := If[x == 0, 0, If[x == 1, 1, x]];
(* pripravime si znacky *)
trojuhelnicek[{x_, y_}] := With[{rr = 0.011},
  Polygon[Table[{x + rr * Cos[fi], y + rr * Sin[fi]}, {fi, -Pi / 2, 3 Pi / 2, 2 Pi / 3}]]];
ctverecek[{x_, y_}] := With[{rr = 0.011},
  Polygon[Table[{x + rr * Cos[fi], y + rr * Sin[fi]}, {fi, Pi / 4, 9 Pi / 4, Pi / 2}]]];
(* a jdeme malovat *)
Graphics[{
  (* obvod *)
  Line[{c2c[{1, 0}], c2c[{0, 1}], c2c[{0, 0}], c2c[{1, 0}]}],
  (* tenka mrizka *)
  {Dashed, Thickness[0.001],
  Table[{
    Line[{c2c[{1 - i, i}], c2c[{0, i}]}],
    Line[{c2c[{1 - i, i}], c2c[{1 - i, 0}]}],
    Line[{c2c[{0, i}], c2c[{i, 0}]}],
    {i, 1 / 10, 9 / 10, 1 / 10}},
  (* dilky na osach *)
  With[{rr = 0.01},
  Table[{
    o = c2c[{1 - i, i}]; Line[{o, o - rr {0, 1}}],
    o = c2c[{0, i}]; Line[{o, o + rr {Sqrt[3], 1} / 2}],
    o = c2c[{i, 0}]; Line[{o, o + rr {-Sqrt[3], 1} / 2}]
  },
  {i, 1 / 10, 9 / 10, 1 / 10}],
  (* popis vrcholu *)

```

```

Text[Style["A", Blue, Italic, FontSize → Scaled[0.06]], {-0.05, 0.1}],
Text[Style["B", Blue, Italic, FontSize → Scaled[0.06]], {1.05, 0.1}],
Text[Style["C", Blue, Italic, FontSize → Scaled[0.06]], {0.6, 0.85}],
(* data *)
{Red, Table[ctverecok[c2c[{v1[[i, 4]], v1[[i, 2]]}], {i, n1 + 1, n2 - 1}],
{Blue, Table[ctverecok[c2c[{v1[[i, 8]], v1[[i, 6]]}], {i, n1 + 1, n2 - 1}],
{Brown, Line[Table[c2c[{v1[[i, 4]], v1[[i, 2]]}], {i, n2 + 1, n3}],
{Magenta, Line[Table[c2c[{v1[[i, 8]], v1[[i, 6]]}], {i, n2 + 1, n3}],
(* umiseni legendy *)
ul = {0.9, 0.6};
(* legenda *)
{Red, ctverecok[ul + {0, 0.2}], Text["Experiment", ul + {0.25, 0.2}],
{Blue, ctverecok[ul + {0, 0.15}], Text["Experiment", ul + {0.25, 0.15}],
{Brown, Line[{ul + {-0.05, 0.1}, ul + {0.05, 0.1}], Text["Vypocet", ul + {0.25, 0.1}],
{Magenta, Line[{ul + {-0.05, 0.05}, ul + {0.05, 0.05}], Text["Vypocet", ul + {0.25, 0.05}],
(* sirka ramecku legendy *)
srl = 0.4;
(* vyska ramecku legendy *)
vrl = 0.25;
(* ramecek legendy *)
Line[{ul - {0.1, 0}, ul + {srl, 0}, ul + {srl, vrl}, ul + {-0.1, vrl}, ul - {0.1, 0}]]
}]

```

Out[9]=

