

Příloha 1/I

„Finger print“ – podpisy zdrojů

1. Úvod – Co jsou to „Finger Printy“?

Na základě provedených emisních šetření byly ze získaných dat sestaveny tzv. „Finger Printy“. Jedná se vlastně o převedení výsledků prováděného podpisu zdroje do grafické podoby za použití koncentrací všech zjišťovaných znečišťujících látek, které jsou vyneseny v logaritmickém měřítku. Dostáváme tak individuální Finger Print zdroje, který je unikátní pro jeden každý zdroj. Pomocí tohoto zobrazení lze rovněž pozorovat podobnost těchto Finger Printů pro stejné zdroje spalující totéž palivo (nejčastěji zdroje shodného provozovatele – vysoká podobnost technologií, aktuálně využívaného paliva apod.)

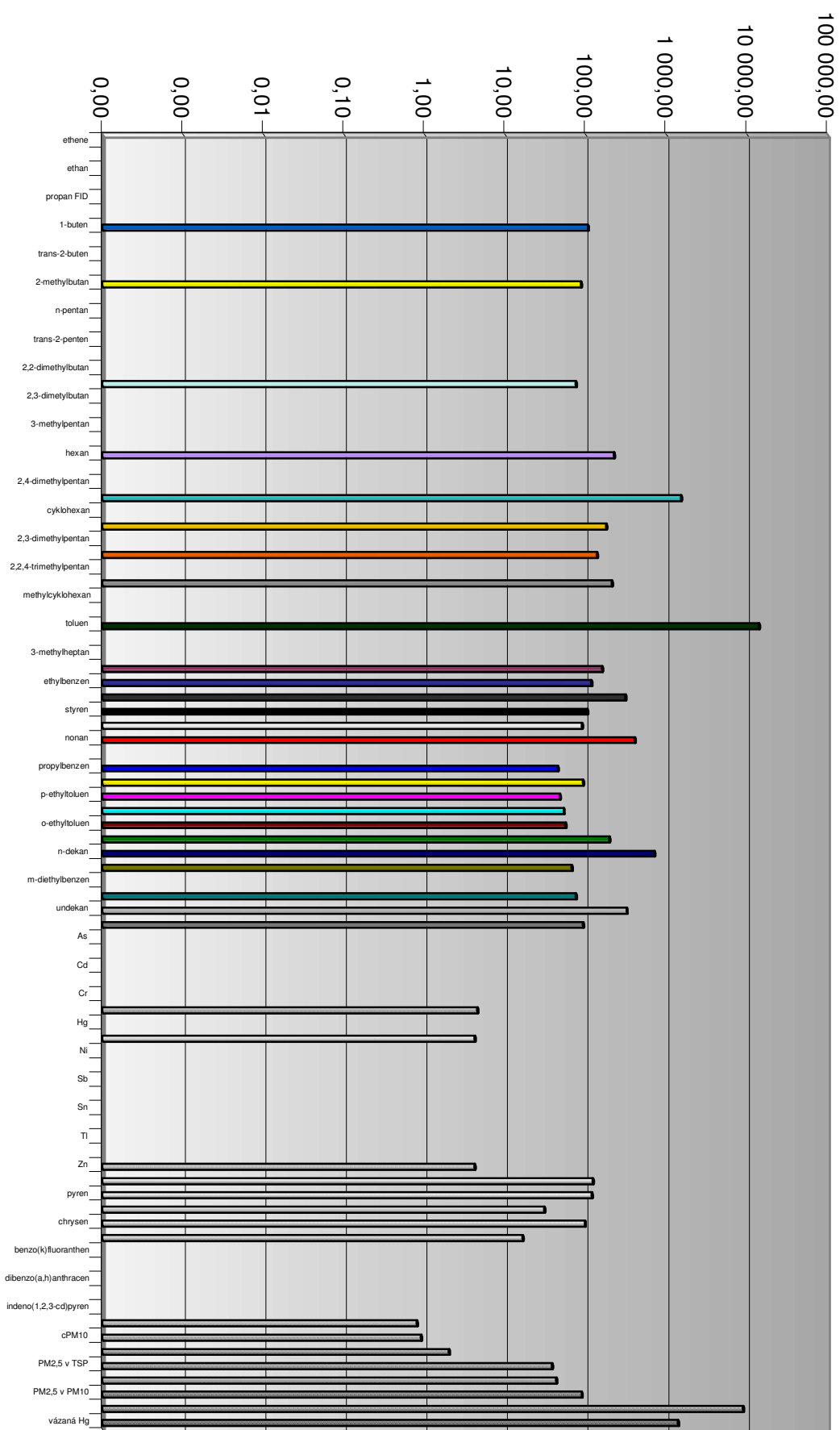
2. Druhy Finger Printů a jejich využití

Finger Printy uvádíme jako celkové (sumární) obsahující výsledky znečišťujících látek všech zjišťovaných skupin látek v daném projektu a jednak jako Finger Printy pro jednotlivé skupiny zjišťovaných látek, zde tedy konkrétně:

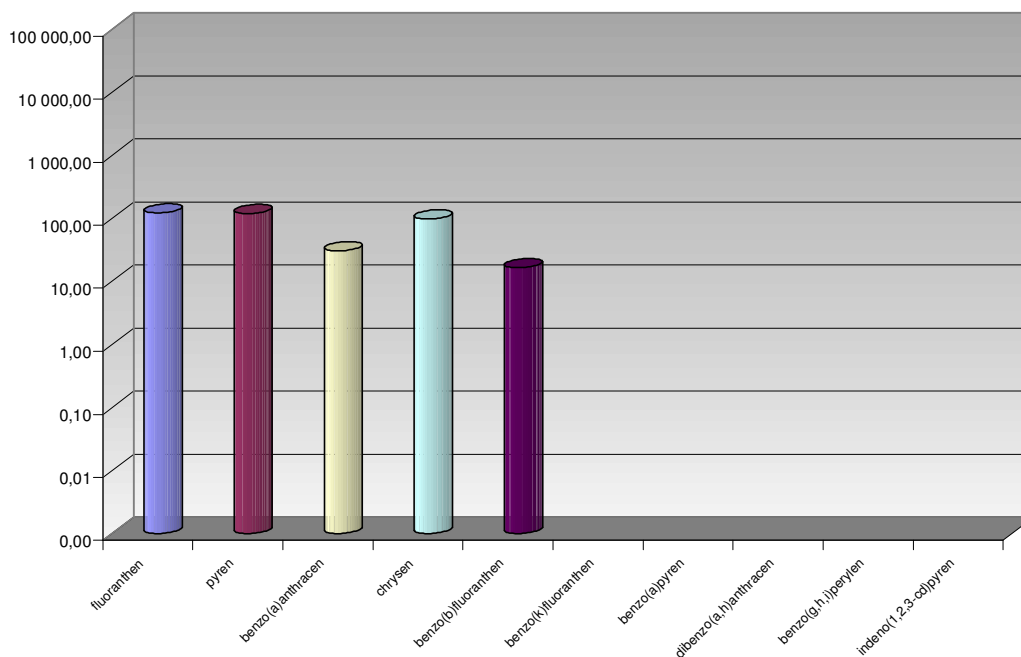
- těžké kovy (TK) - antimon, arsen, berylium, cín, chrom, kadmium, kobalt, mangan, měď, nikl, olovo, rtuť, selen, telur, thalium, vanad a zinek [$\mu\text{g}/\text{m}^3$]
- těkavé organické látky (VOC) - ethan, ethylen, acetylen, propan, propen, n-butan, i-butan, 1-buten, trans-2-buten, cis-2-buten, 1,3-butadien, a-pentan, i-pentan, 1-penten, 2-penten, isopren, a-hexan, i-hexen, n-heptan, n-oktan, benzen, toluen, ethylbenzen, m,p-xylen, o-xylen, 1,2,4-trimethylbenzen, 1,2,3-trimethylbenzen, ethyltolueny (o,m,p), 1,3,5-trimethylbenzen [$\mu\text{g}/\text{m}^3$]
- polycyklické aromatické uhlovodíky (PAH) - fluoranten, pyren, chrysen, benzo(a)pyren, benzo(b)fluoranten, benzo(k)fluoranten, benzo(1,2,3-c,d)pyren, benzo(a)antracen [ng/m^3]
- tuhé znečišťující látky a rtuť (TZL + Hg) – koncentrace tuhých znečišťujících látek frakce PM_{2,5} a PM₁₀, TSP, [mg/m^3] rtuť volná a vázaná [ng/m^3], zastoupení jednotlivých frakcí v TSP [%]

Použití tohoto dělení umožňuje porovnávat Finger Printy srovnatelných technologií zjišťovaných v rámci různých projektů, kdy rozsah sledovaných skupin látek není pro všechny projekty stejný. Bude-li tedy projekt zaměřen např. pouze na skupinu látek (VOC), lze výsledky porovnat přímo s Finger Printem (VOC) získaným v rámci jiného projektu, zaměřeného kromě VOC i na např. těžké kovy.

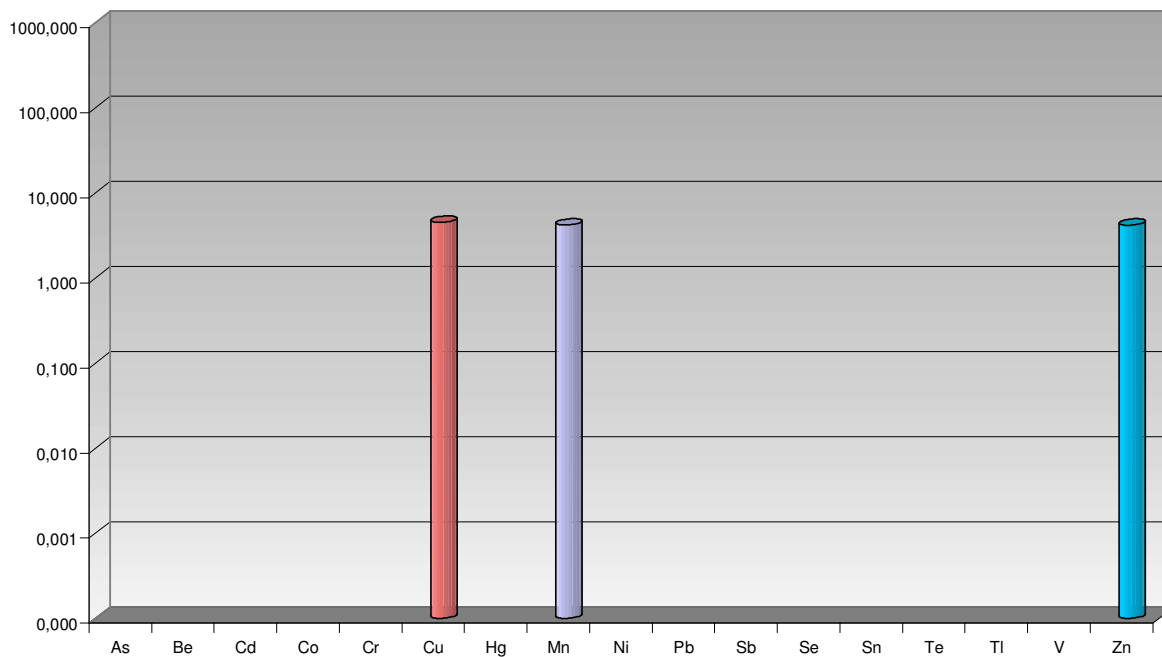
Pražské služby a.s. - spalovna Malešice (závod 14)



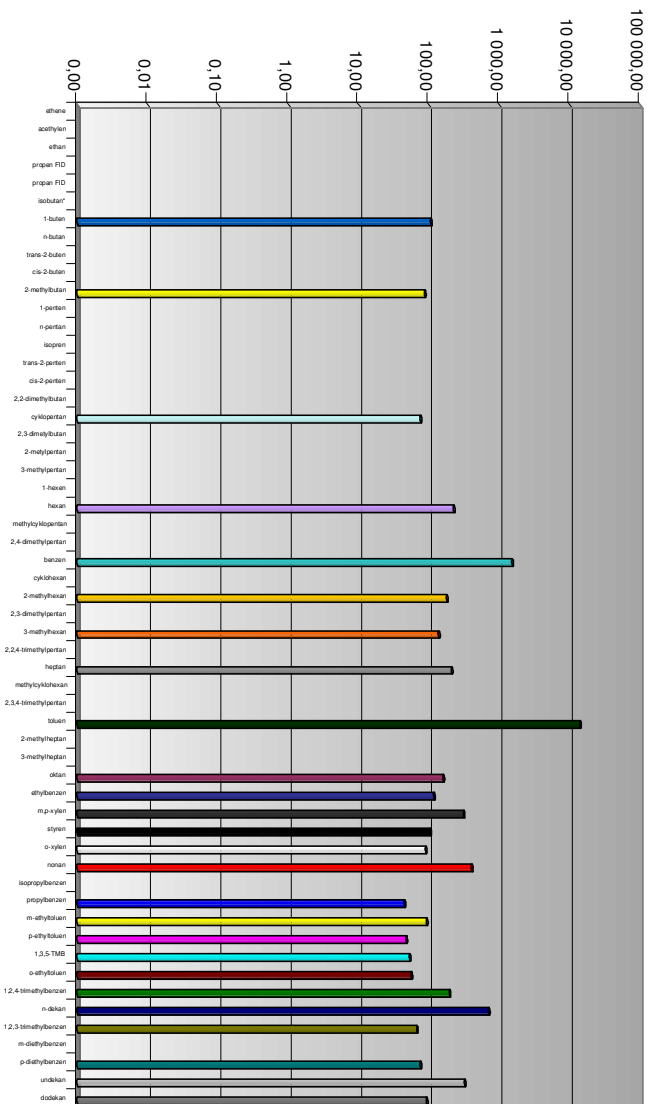
Pražské služby a.s - spalovna Malešice (PAH)



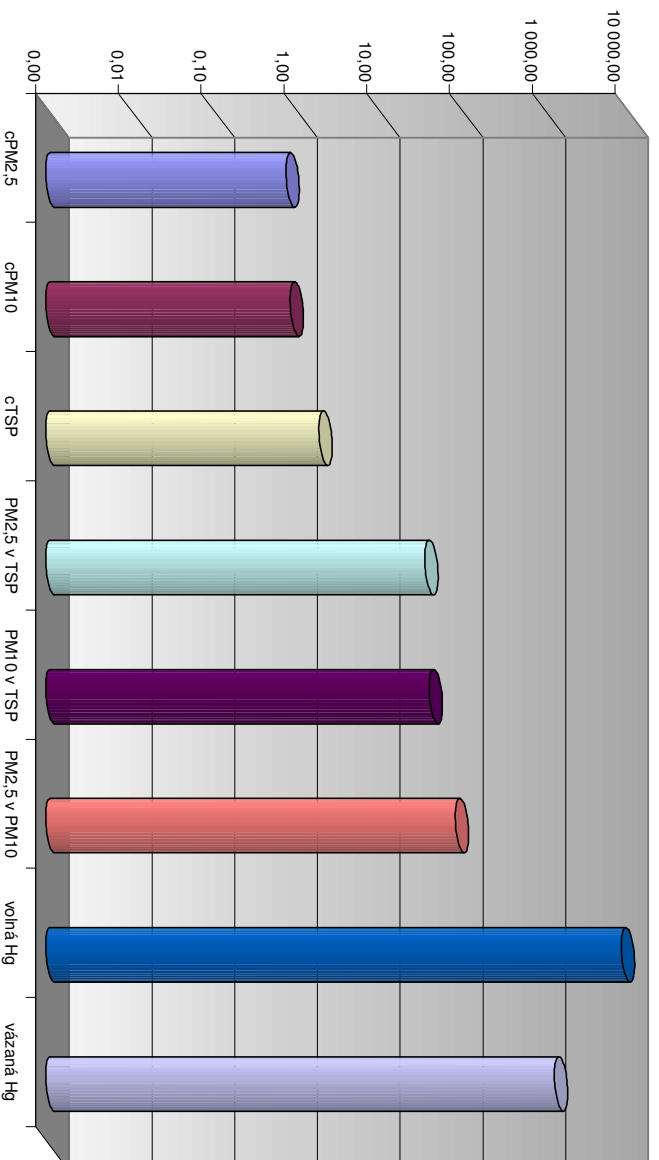
Pražské služby a.s - spalovna Malešice (TK)



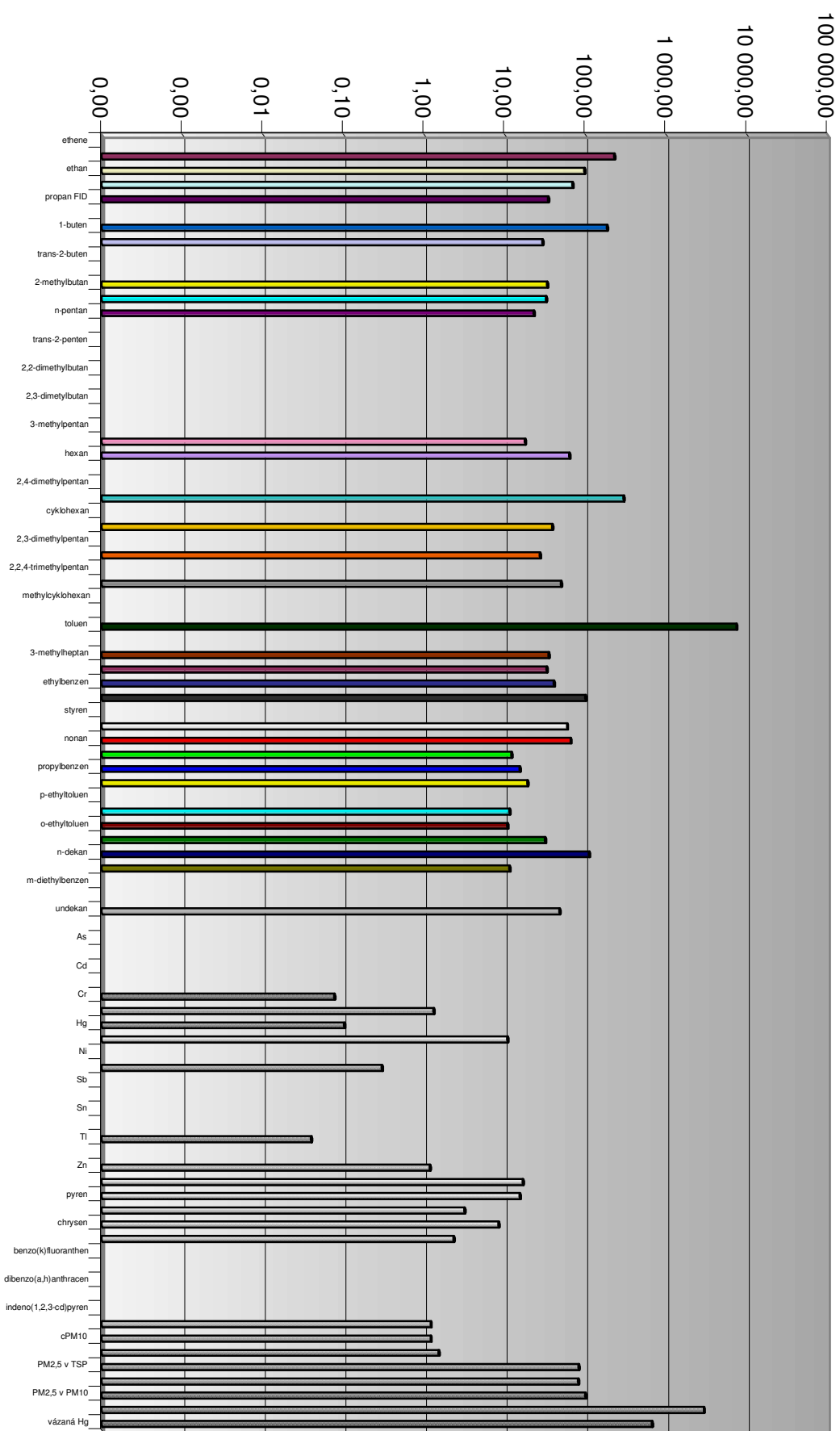
Pražské služby a.s. - spalovna Malešice (VOC)



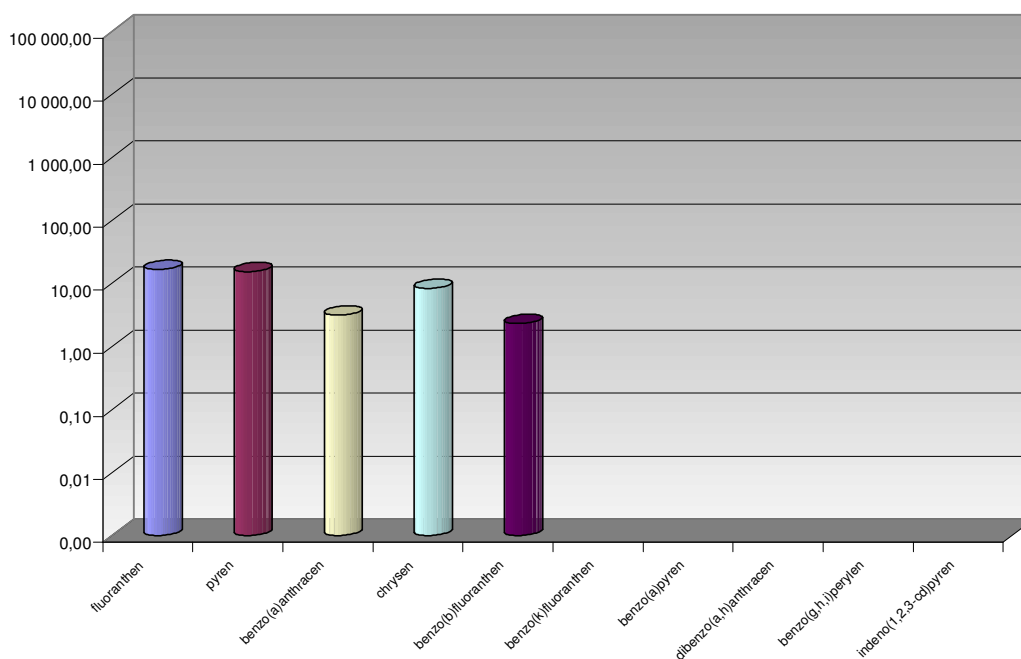
Pražské služby a.s. - spalovna Malešice (TZL + Hg)



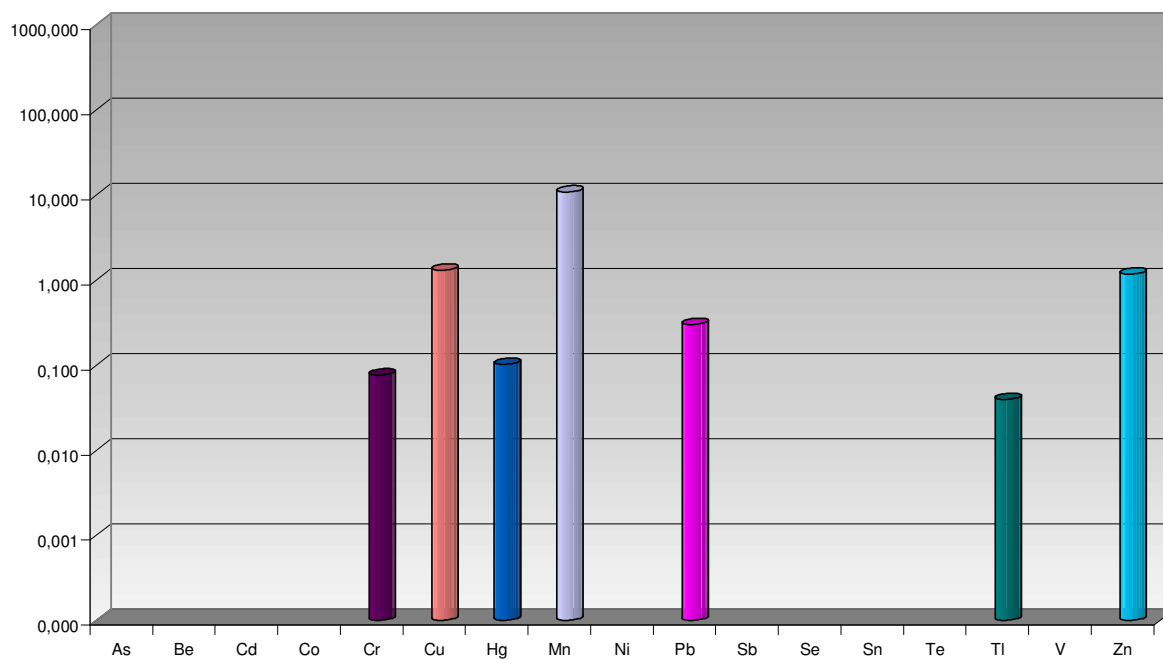
Českomoravský cement a.s. – závod Radotín 001



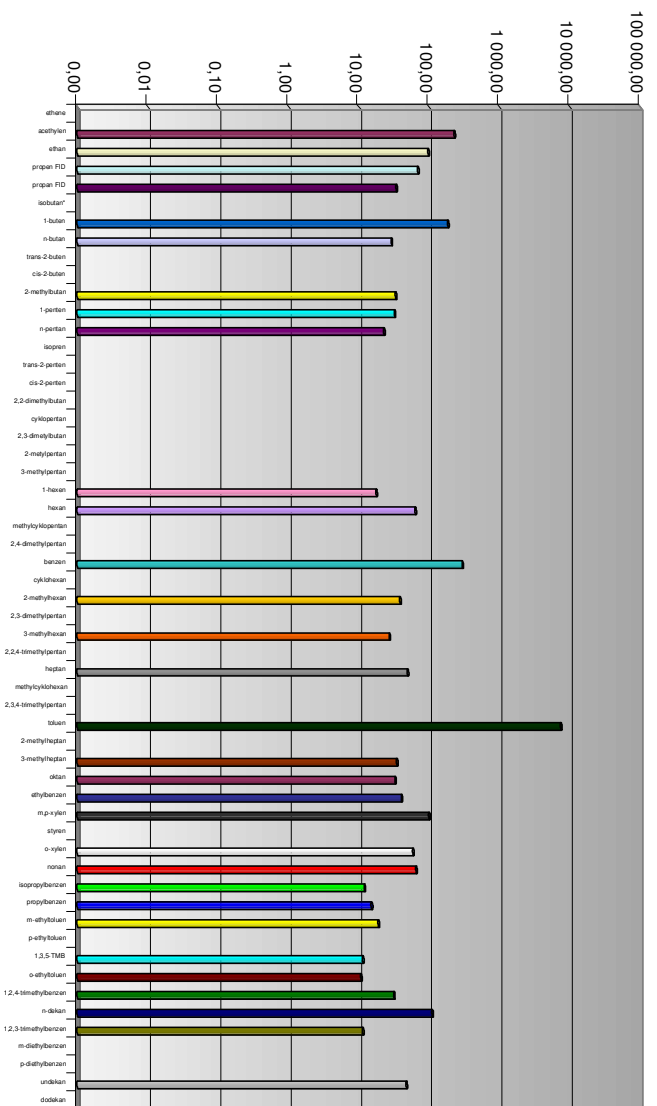
Českomoravský cement a.s. – závod Radotín 001 (PAH)



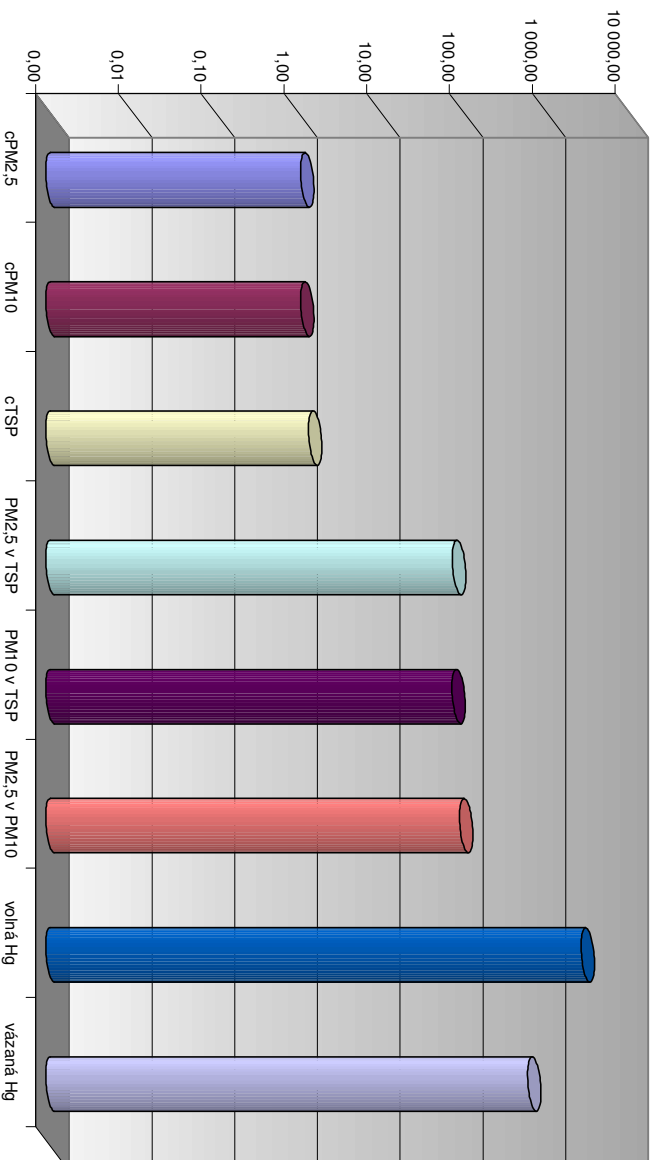
Českomoravský cement a.s. – závod Radotín 001 (TK)



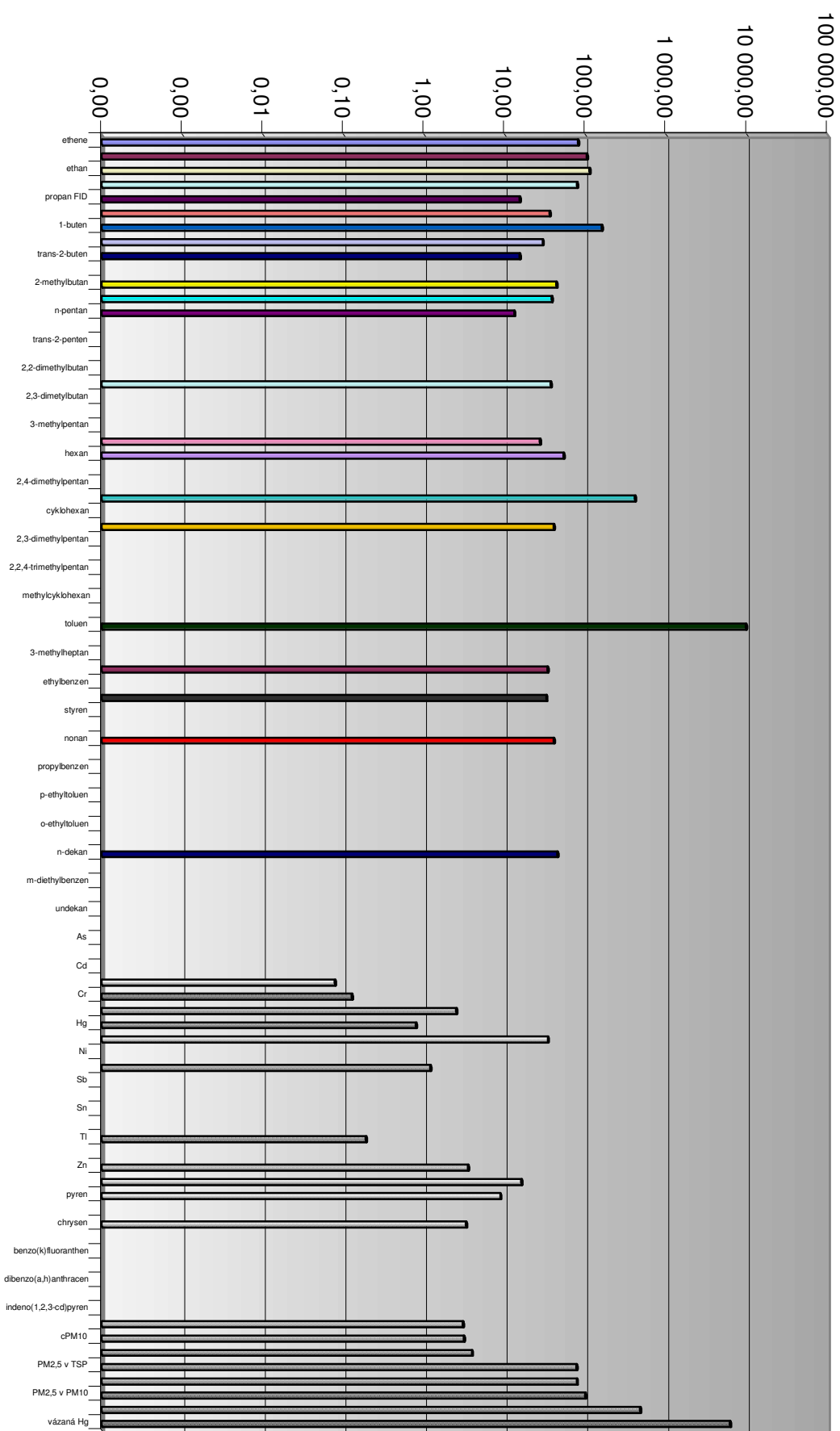
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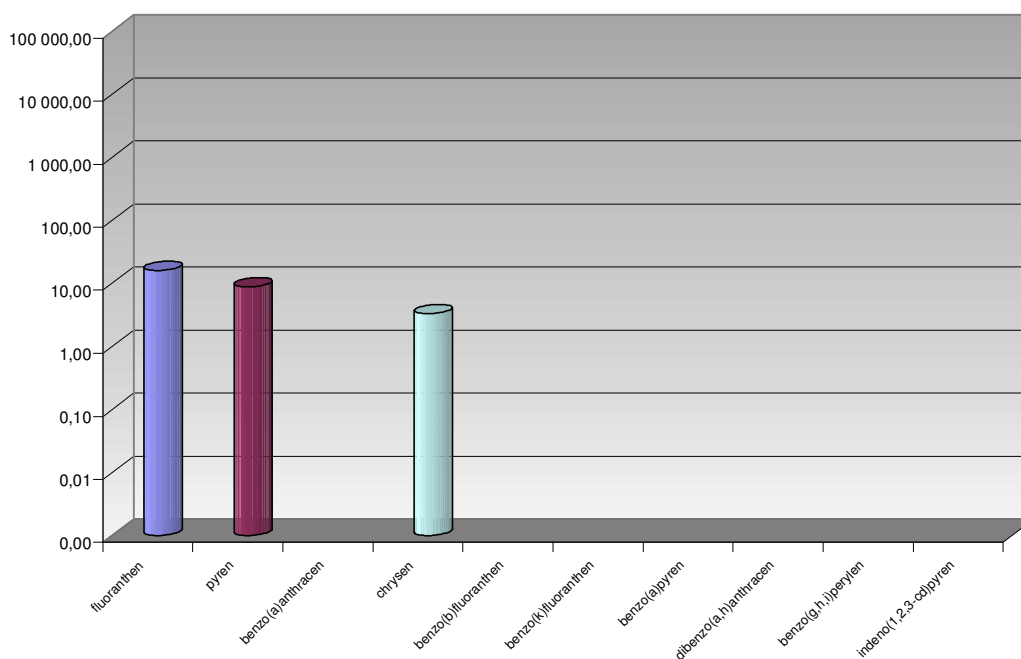
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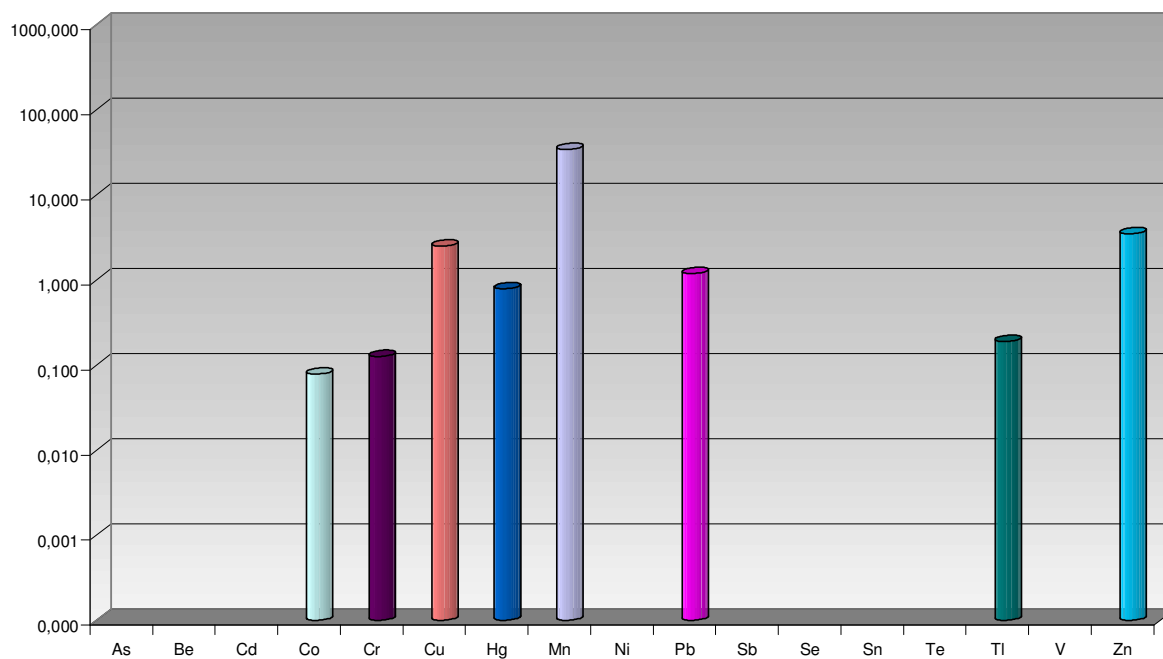
Českomoravský cement a.s. – závod Radotín 002



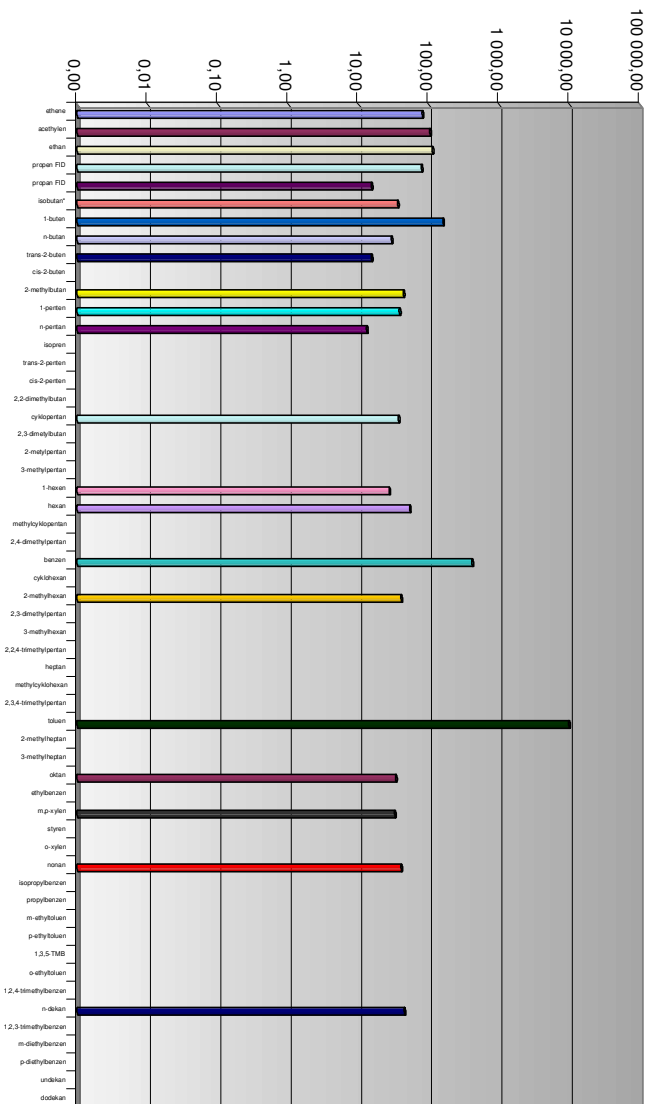
Českomoravský cement a.s. – závod Radotín 002 (PAH)



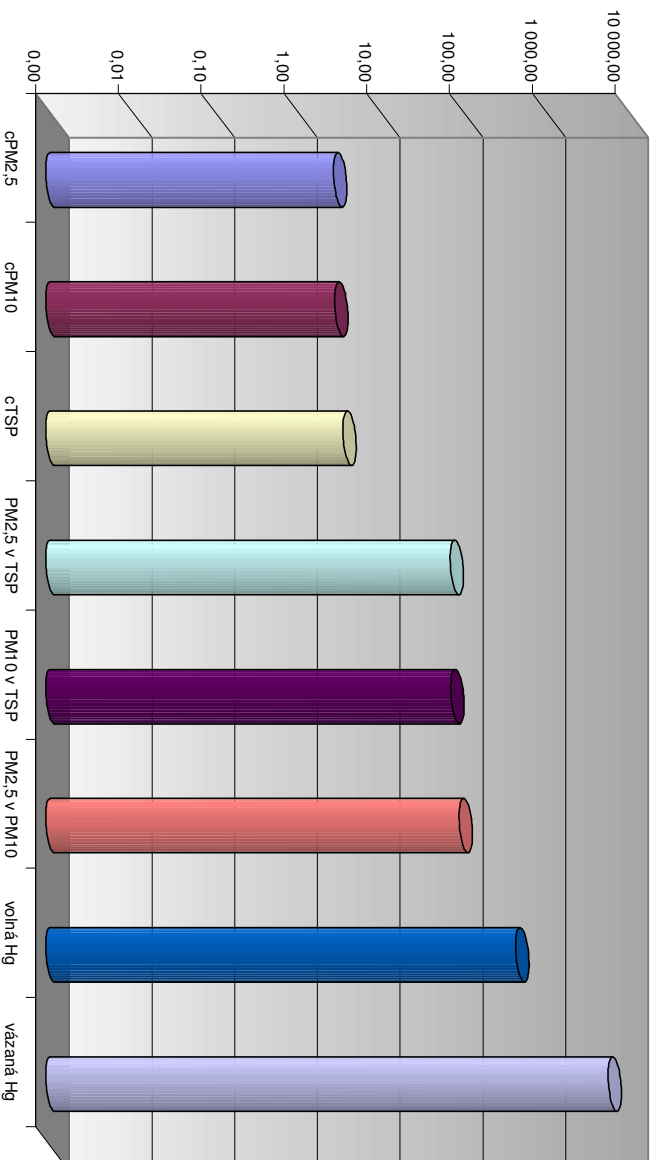
Českomoravský cement a.s. – závod Radotín 002 (TK)



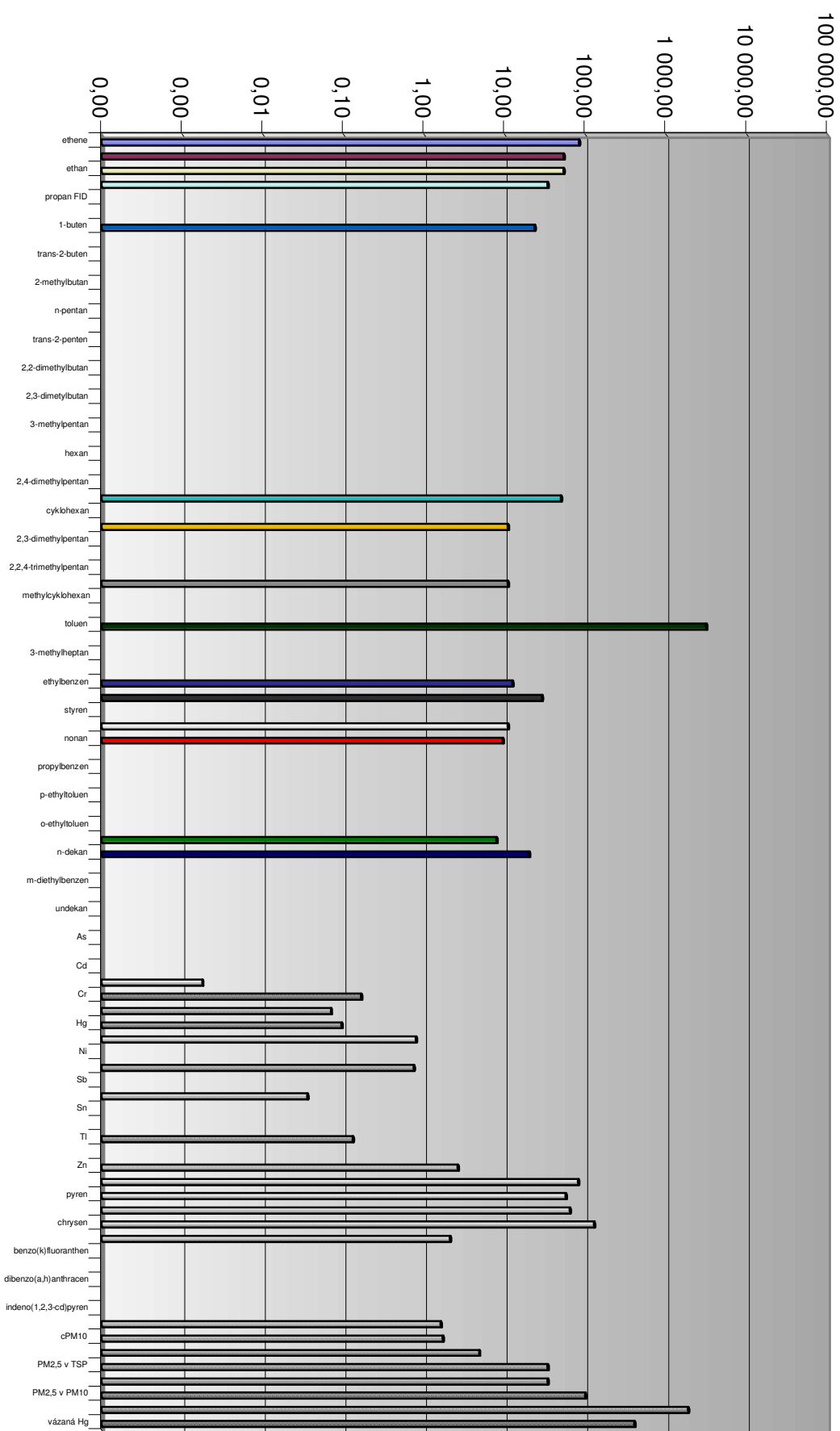
Českomoravský cement a.s. – závod Radotín 002 (VOC)



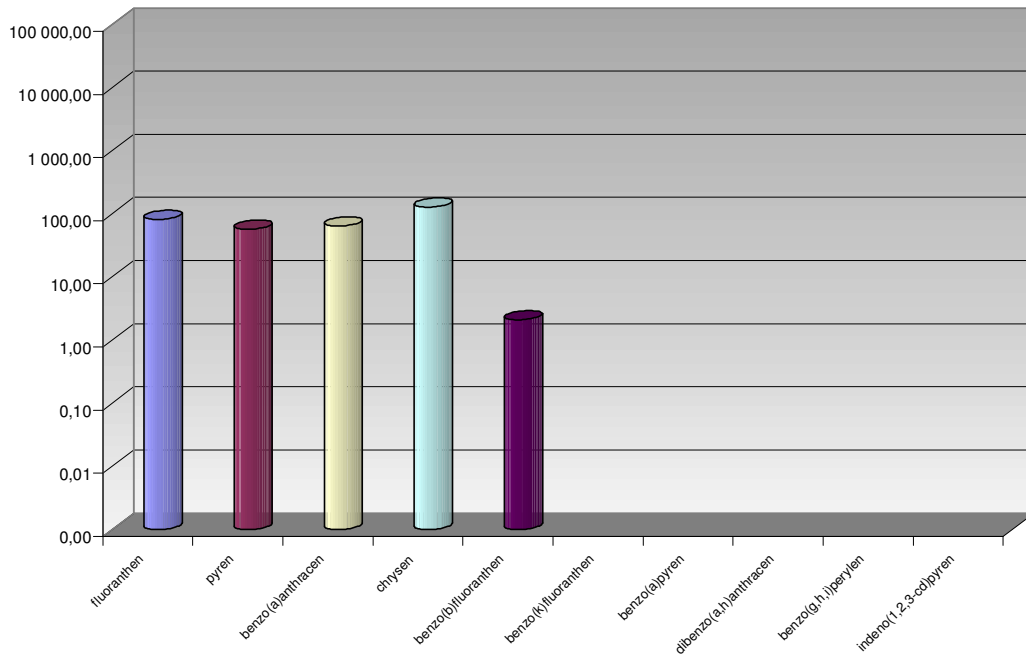
Českomoravský cement a.s. – závod Radotín 002 (TZL + Hg)



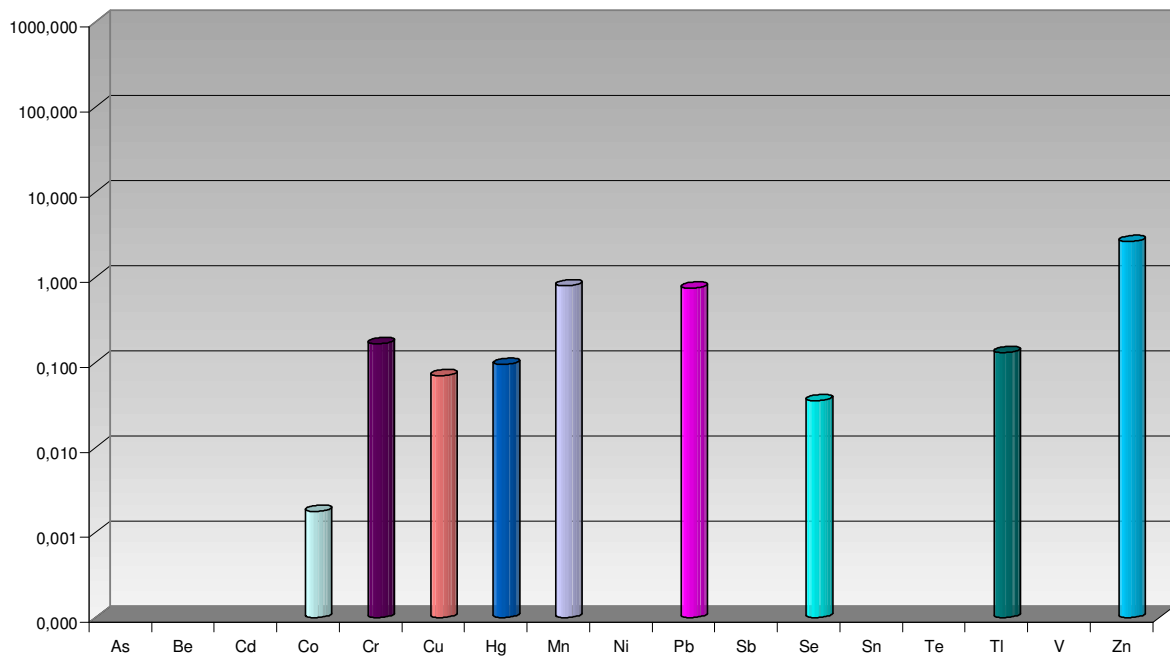
Českomoravský cement a.s. – závod Radotín 003



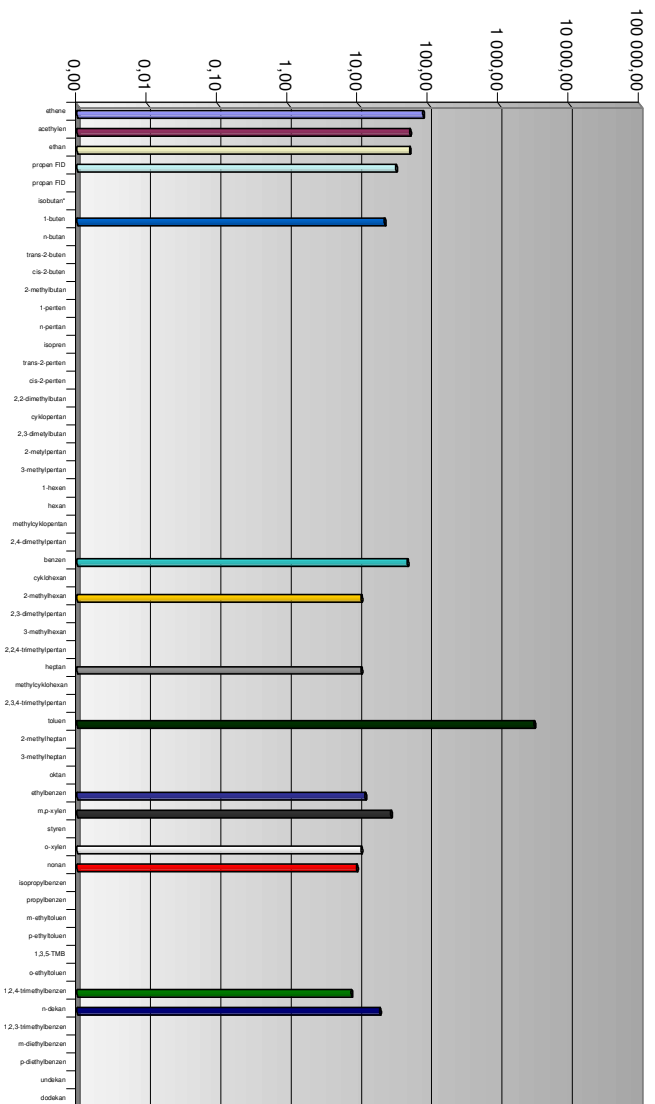
Českomoravský cement a.s. – závod Radotín 003 (PAH)



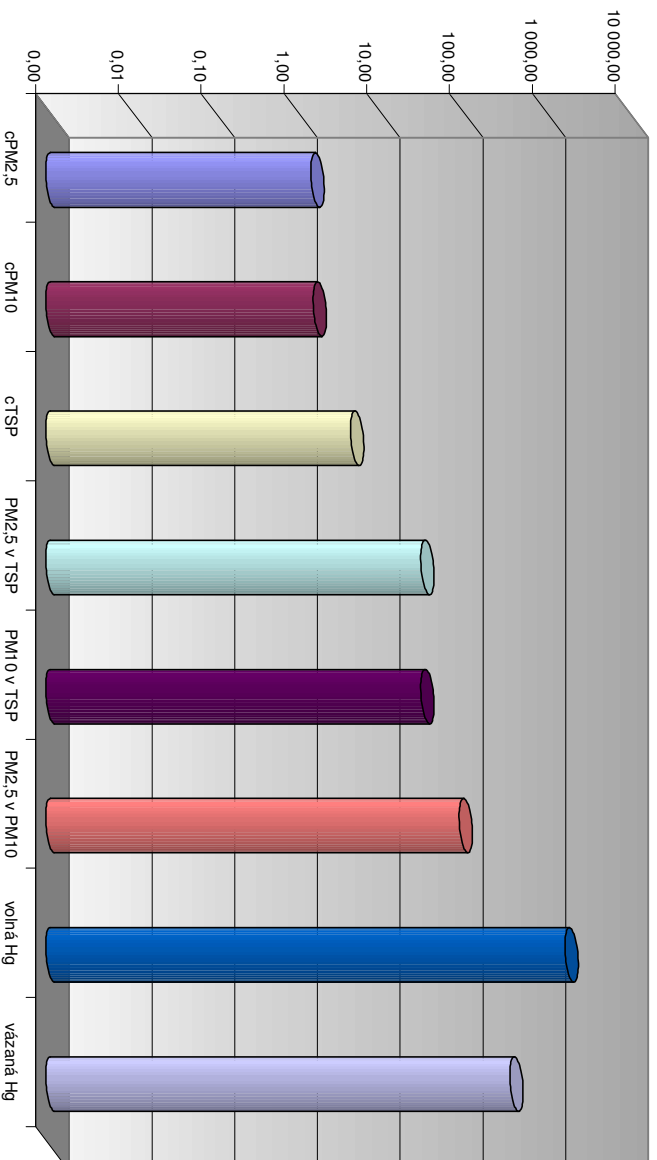
Českomoravský cement a.s. – závod Radotín 003 (TK)



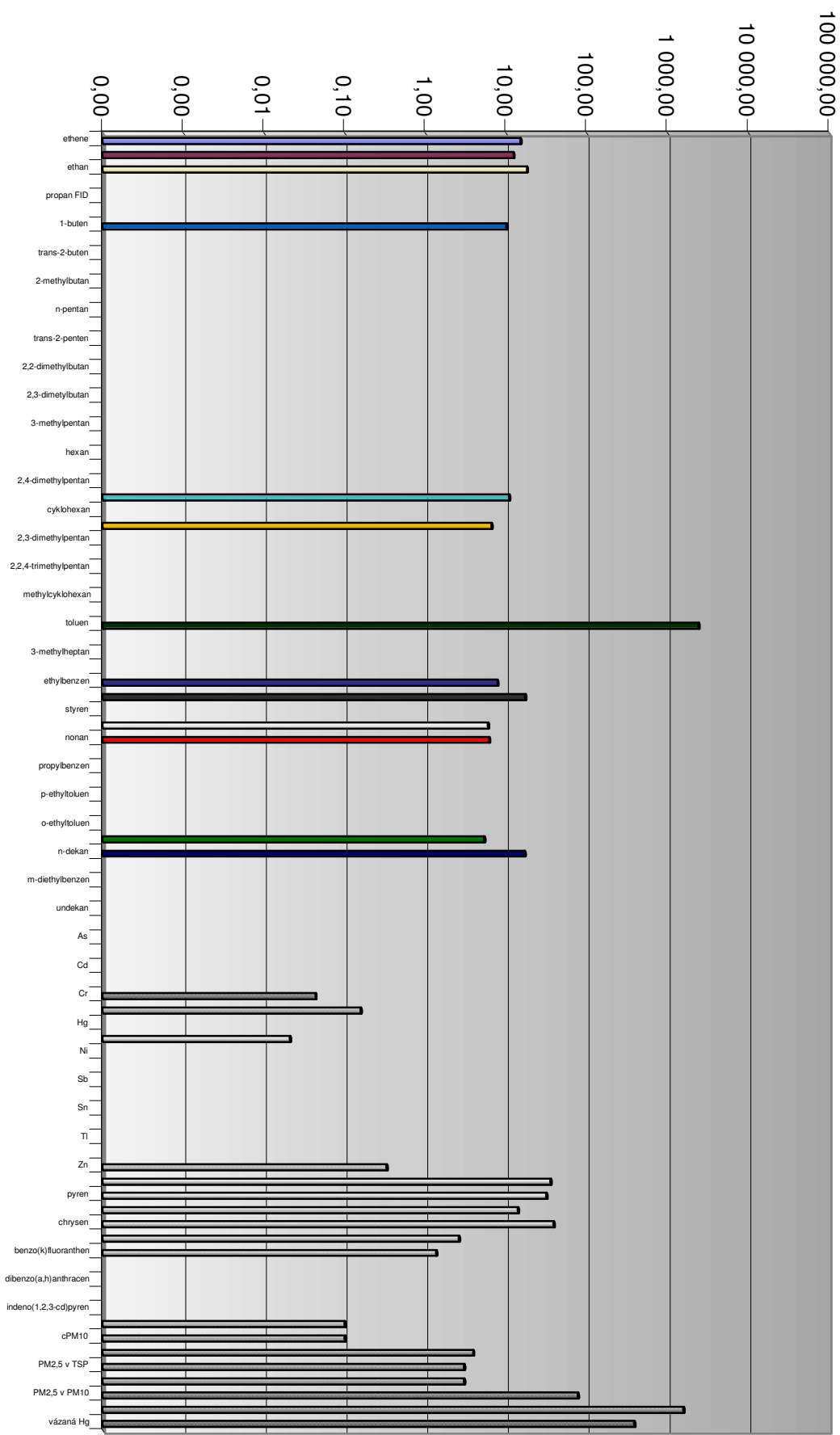
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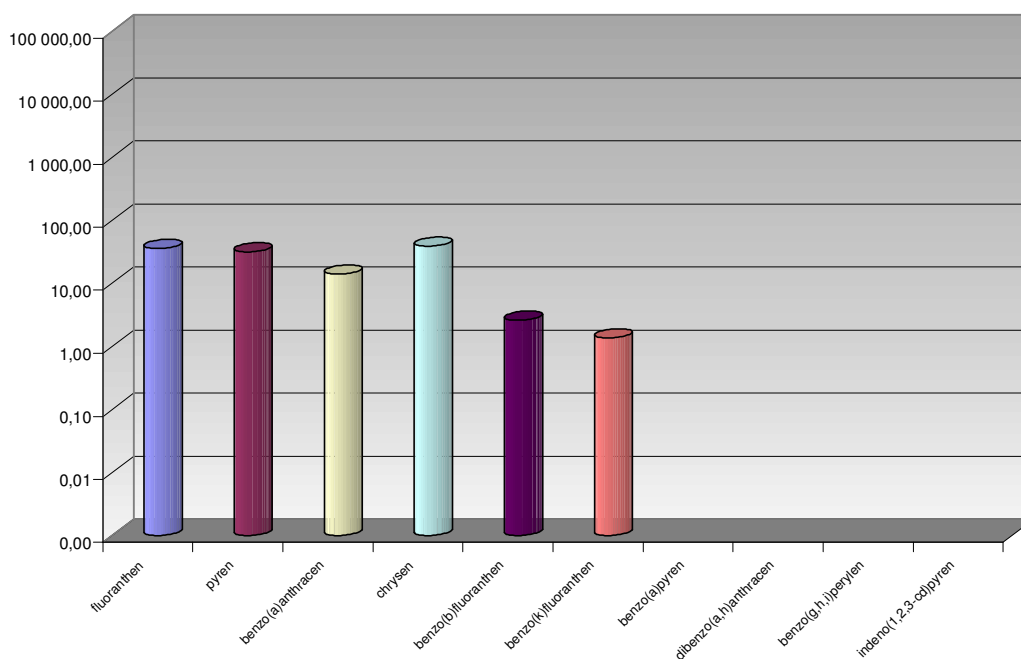
Českomoravský cement a.s. – závod Radotín 003 (TZL + Hg)



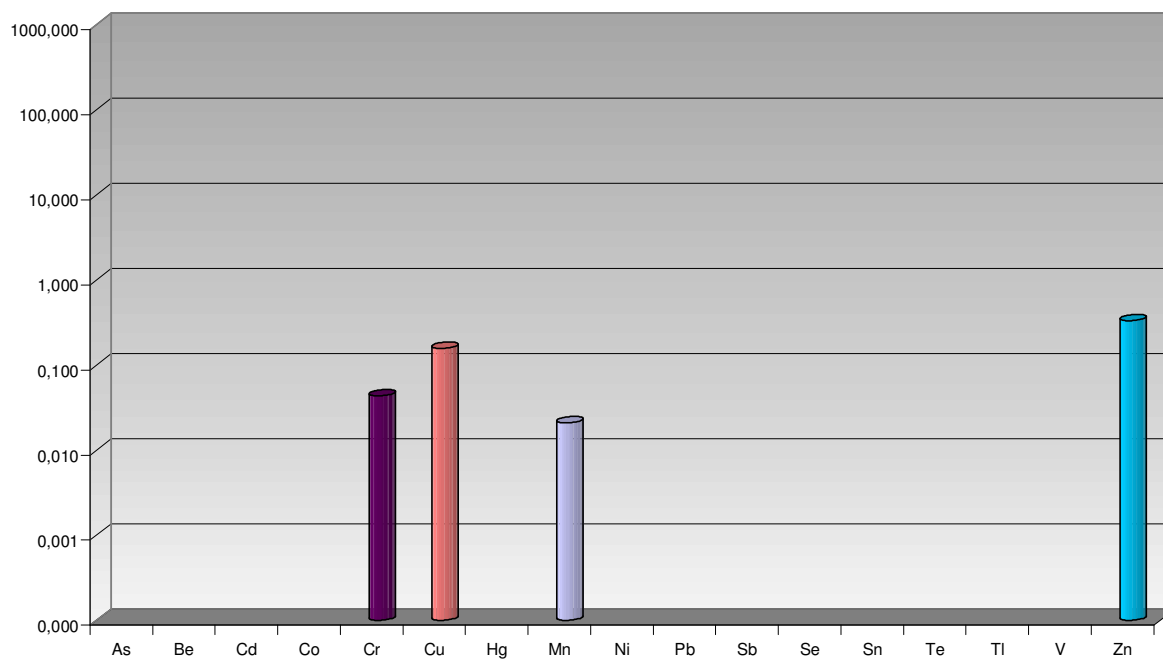
ECK Generating Kladno - K3



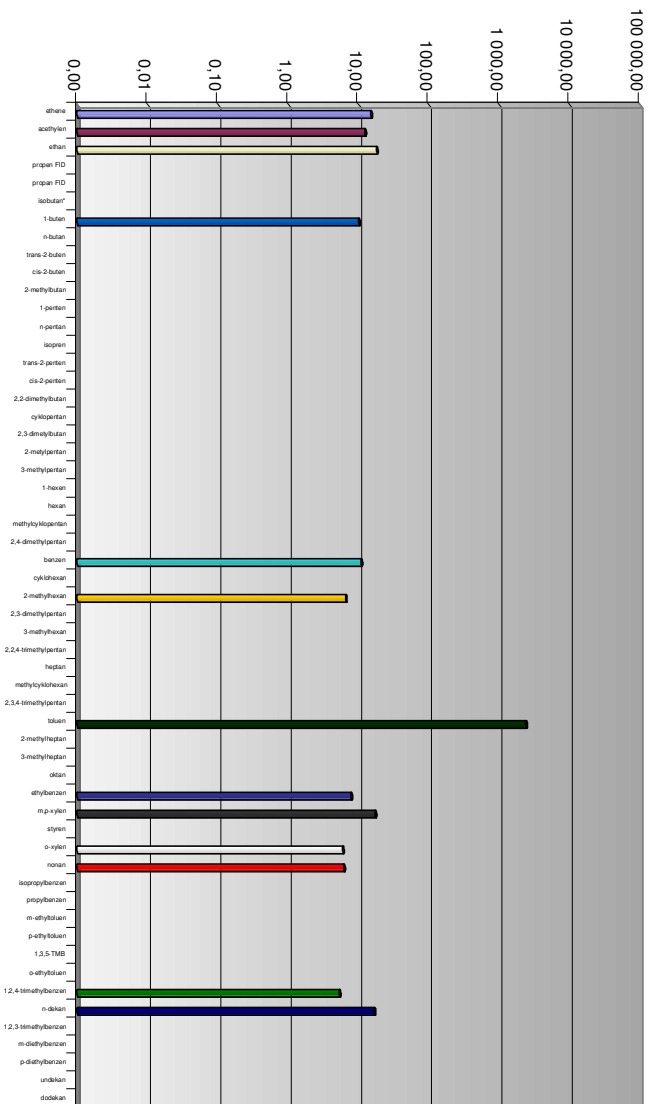
ECK Generating Kladno - K3 (PAH)



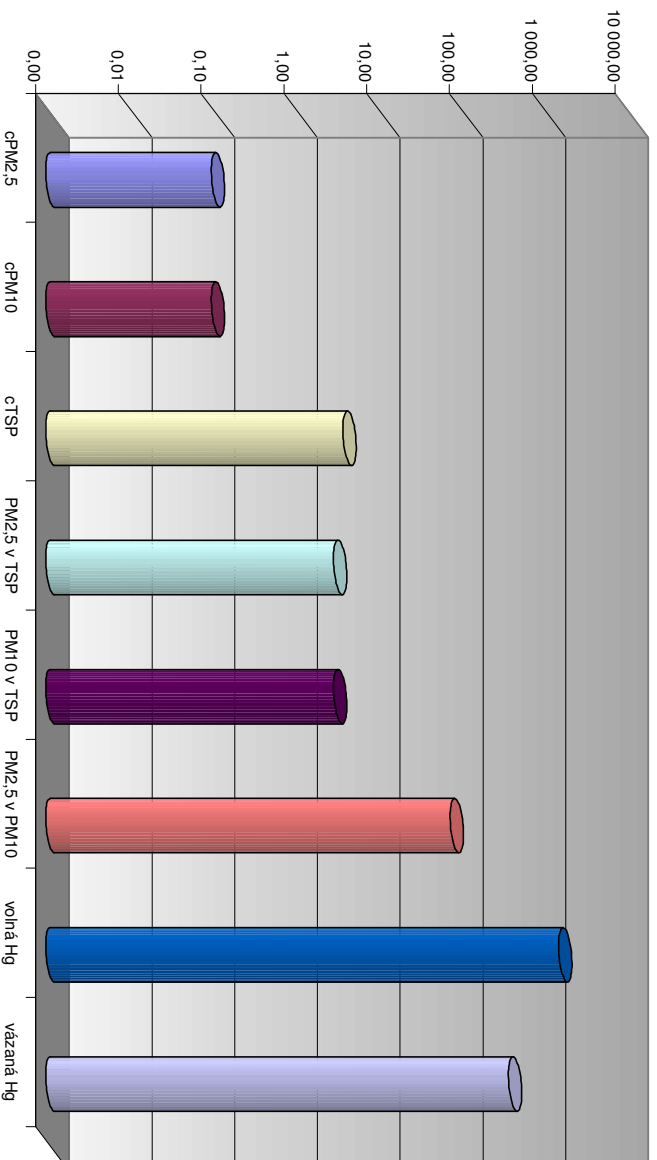
ECK Generating Kladno - K3 (TK)



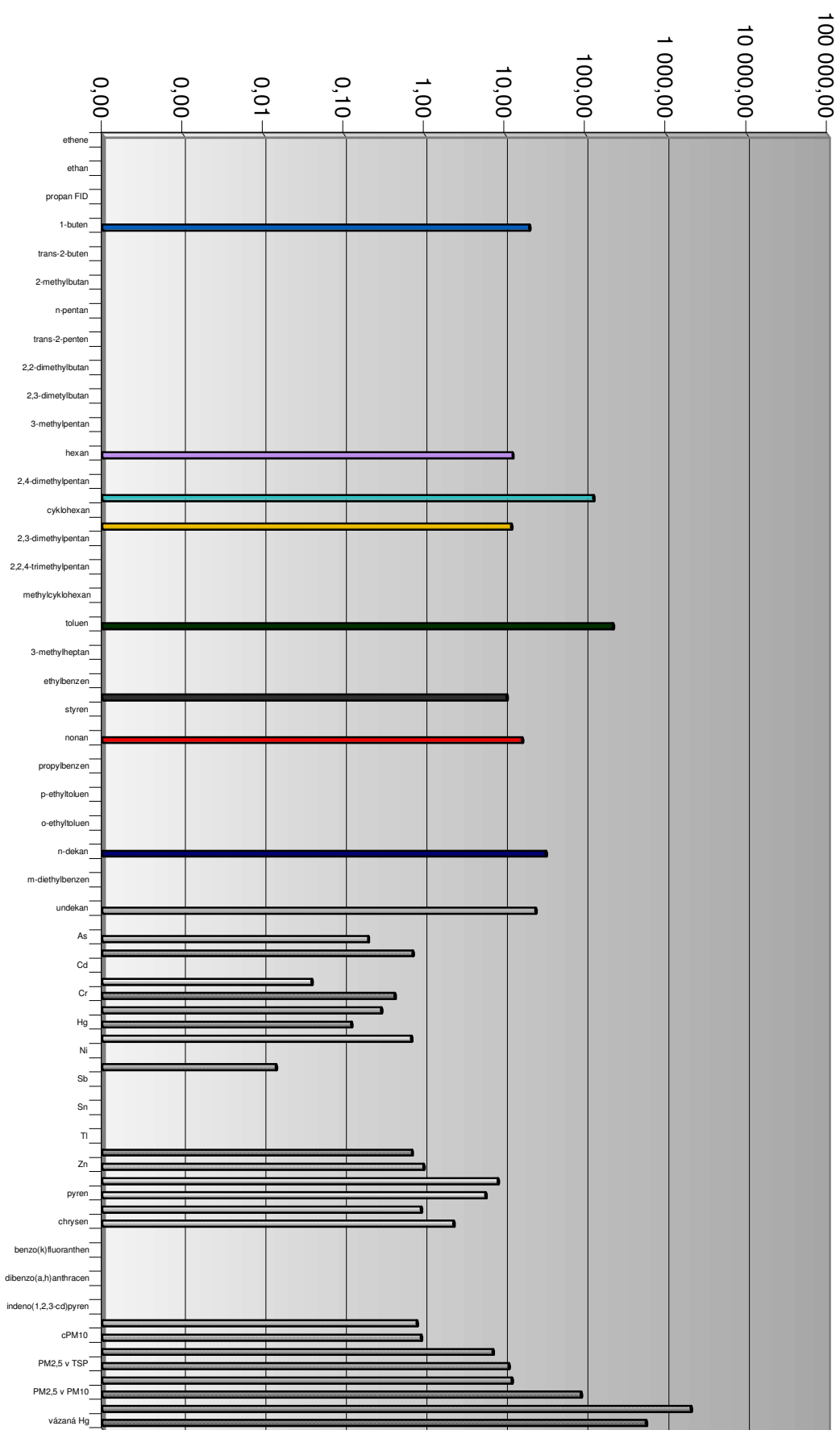
ECK Generating Kladno - K3 (VOC)



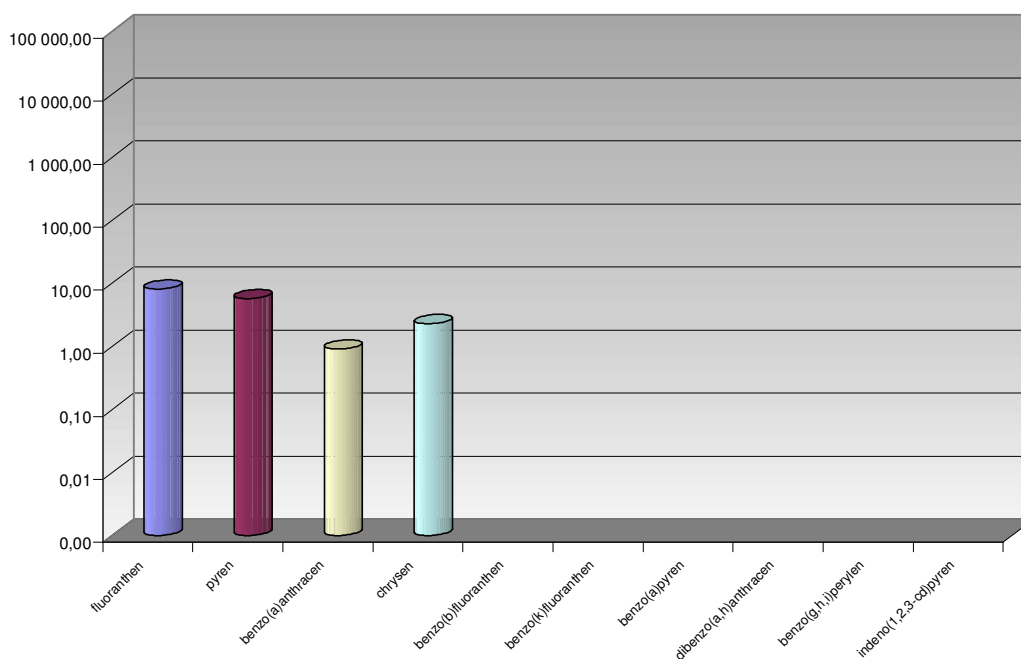
ECK Generating Kladno - K3 (TZL + Hg)



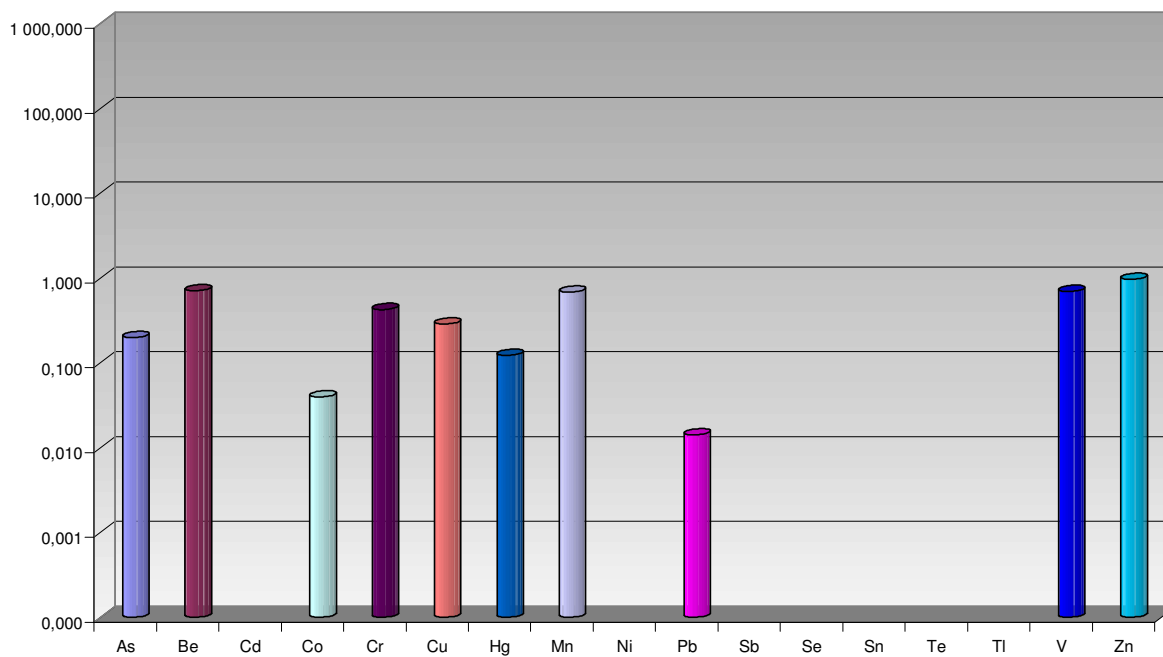
ECK Generating Kladno- K4



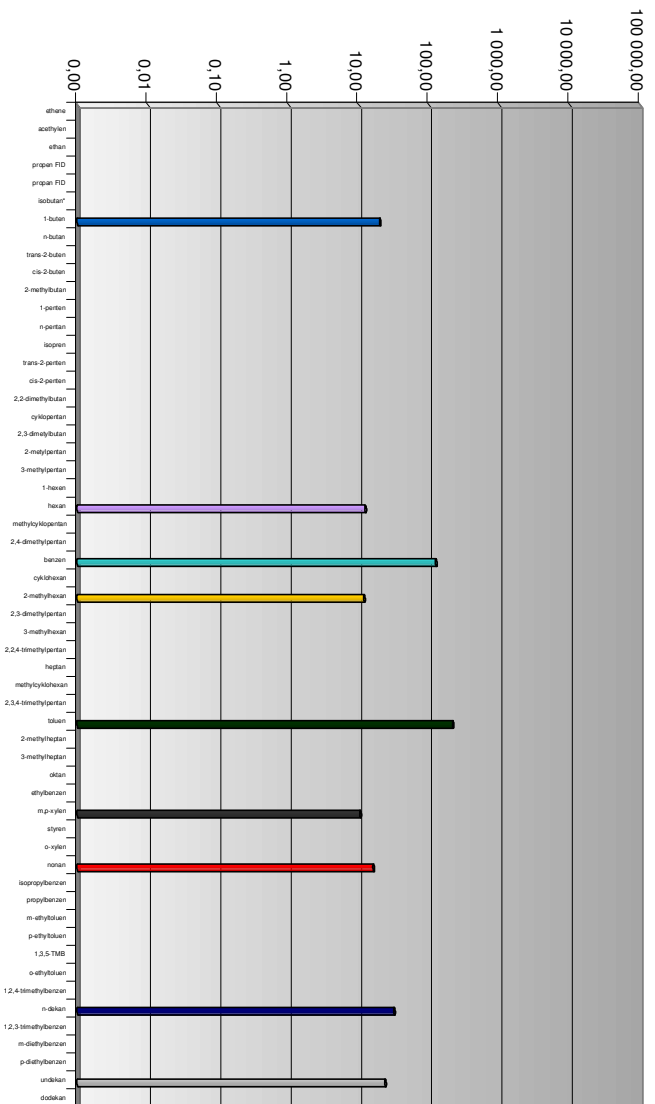
ECK Generating Kladno - K4 (PAH)



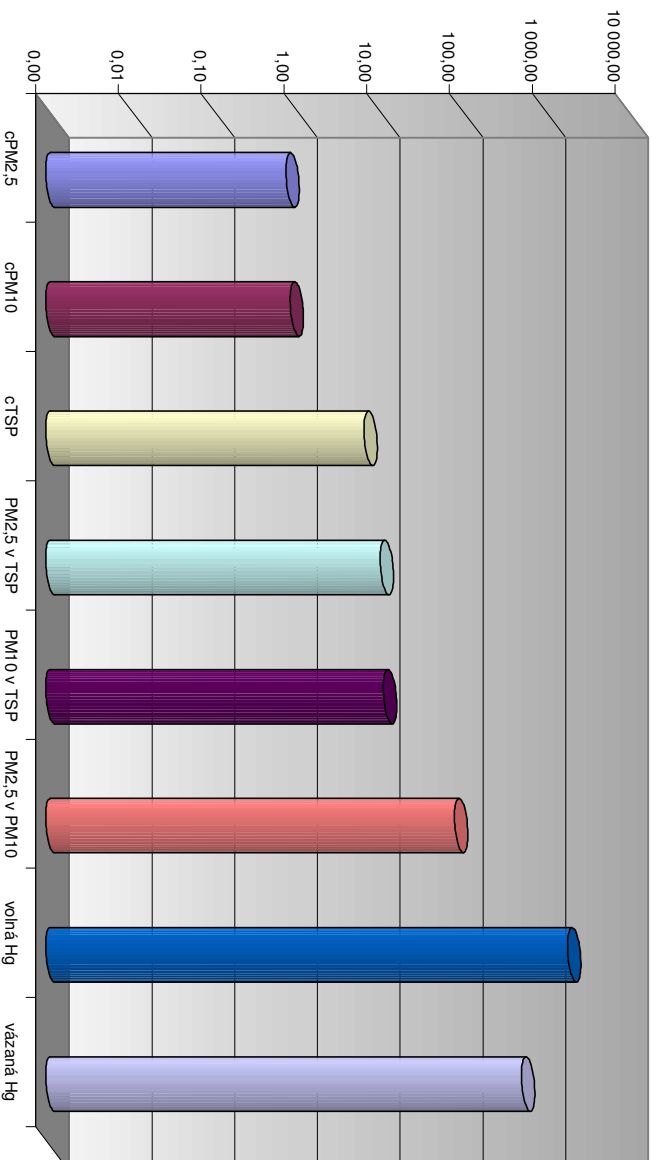
ECK Generating Kladno - K4 (TK)



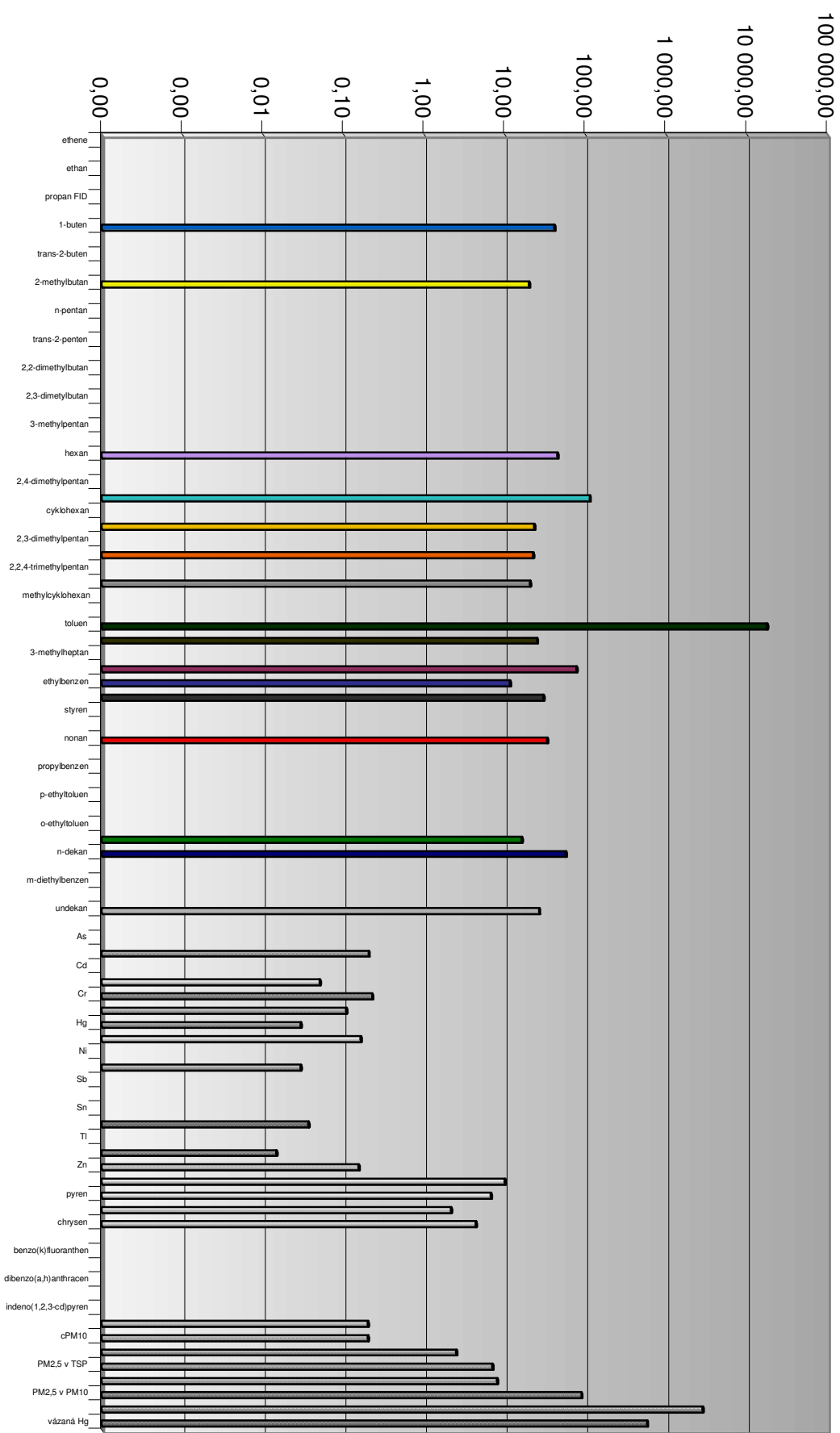
ECK Generating Kladno - K4 (VOC)



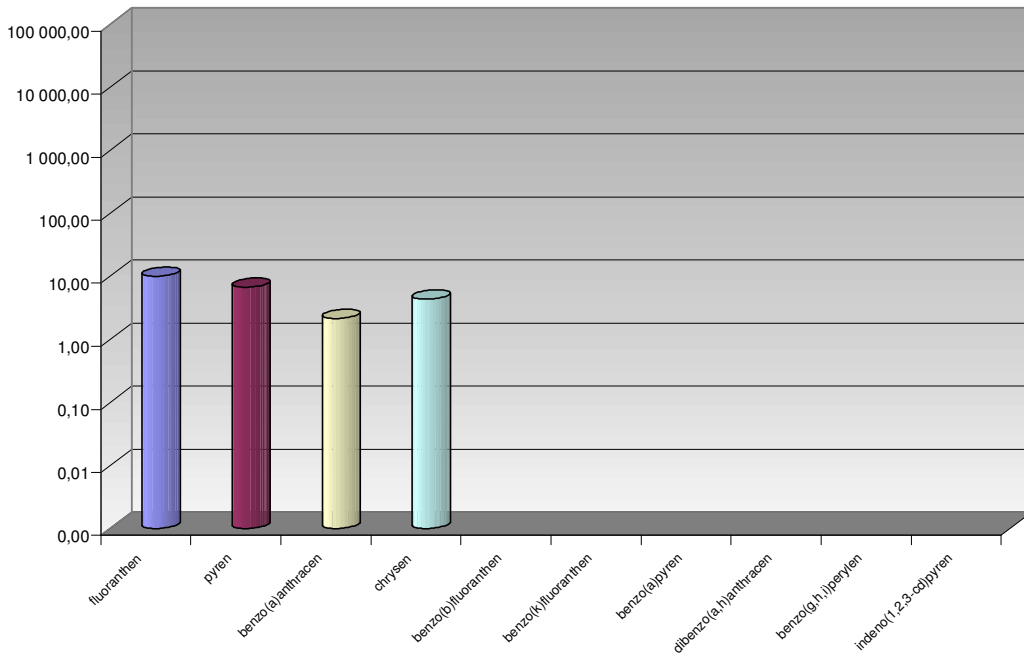
ECK Generating Kladno - K4 (TZL + Hg)



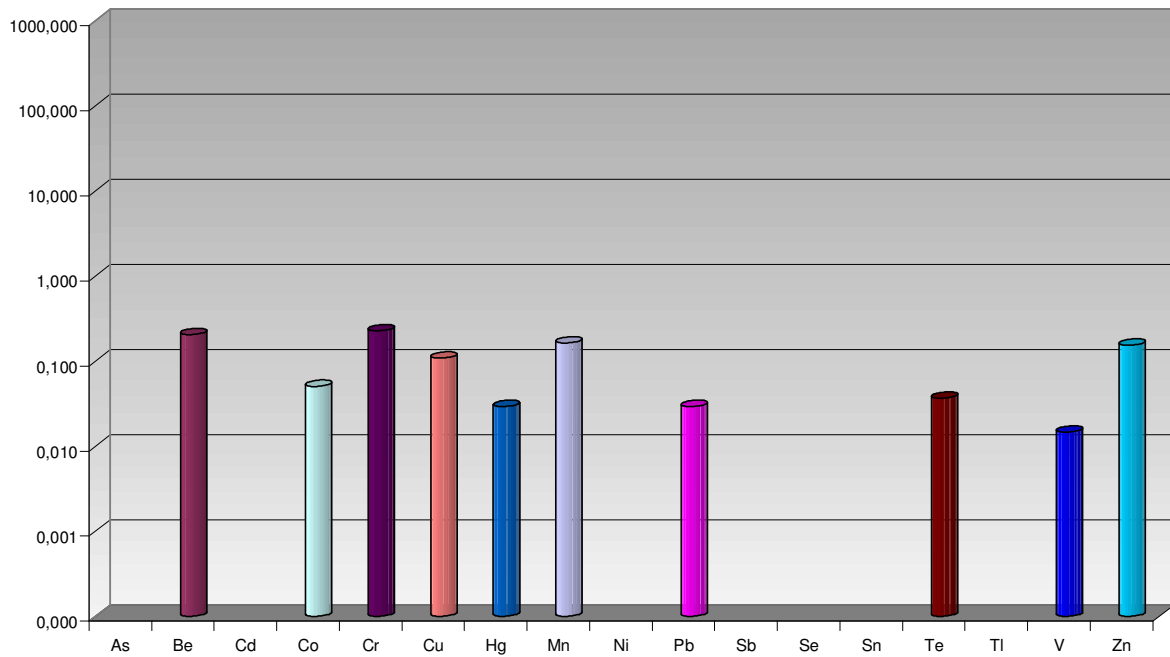
Pražská tepleárenská a.s. Teplárna Malešice K12



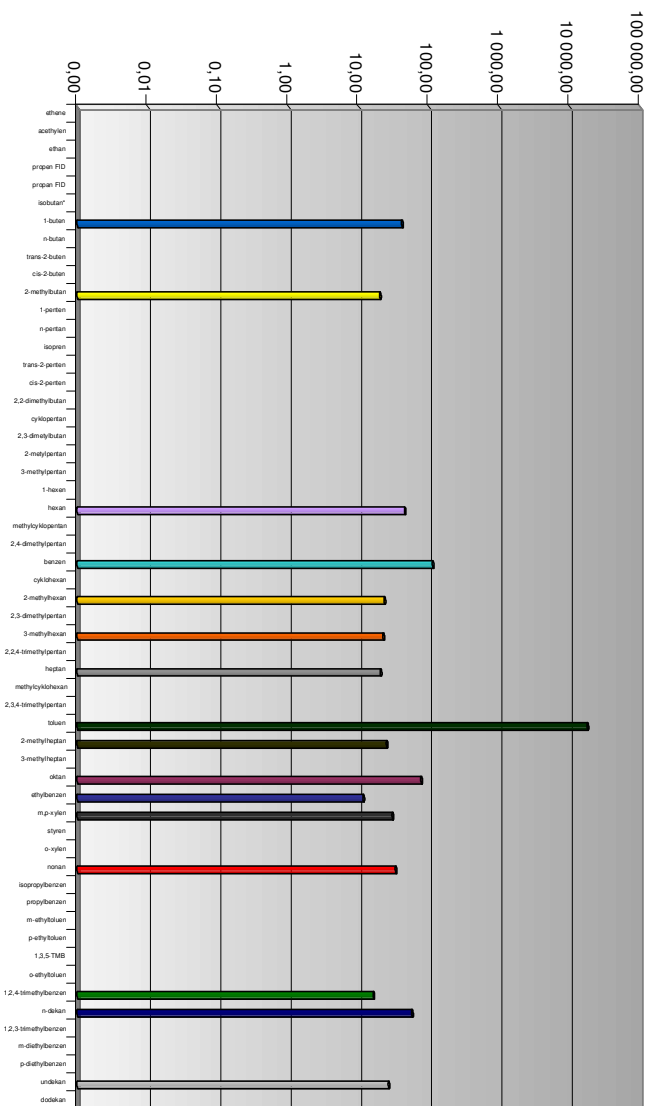
Pražská teplárenská a.s. Teplárna Malešice K12 (PAH)



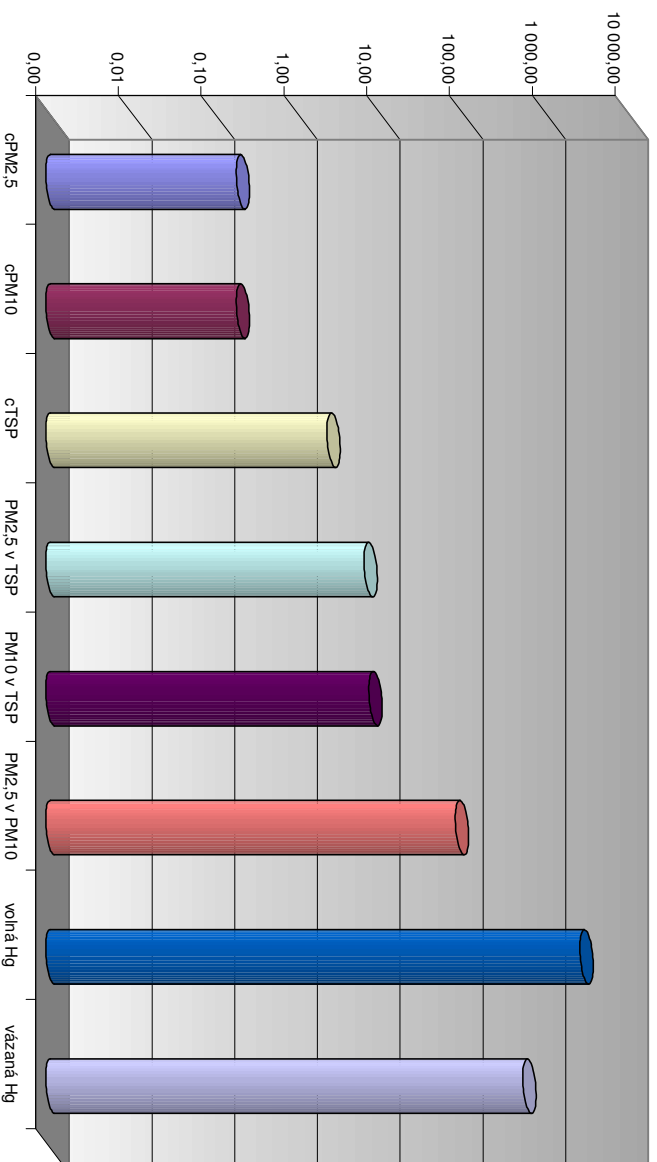
Pražská teplárenská a.s. Teplárna Malešice K12 (TK)



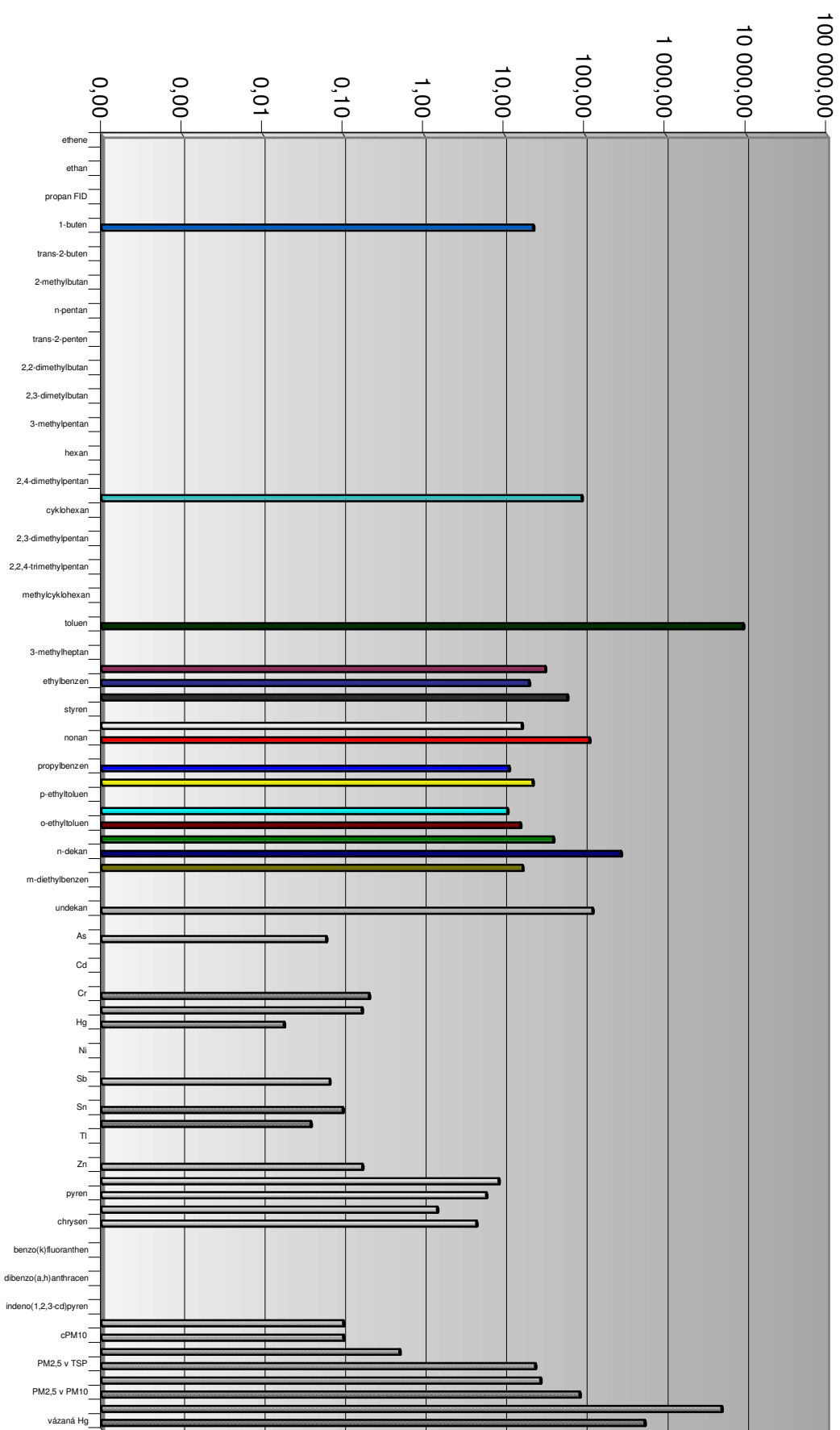
Pražská tepleřenská a.s. Teplárna Malešice K12 (VOC)



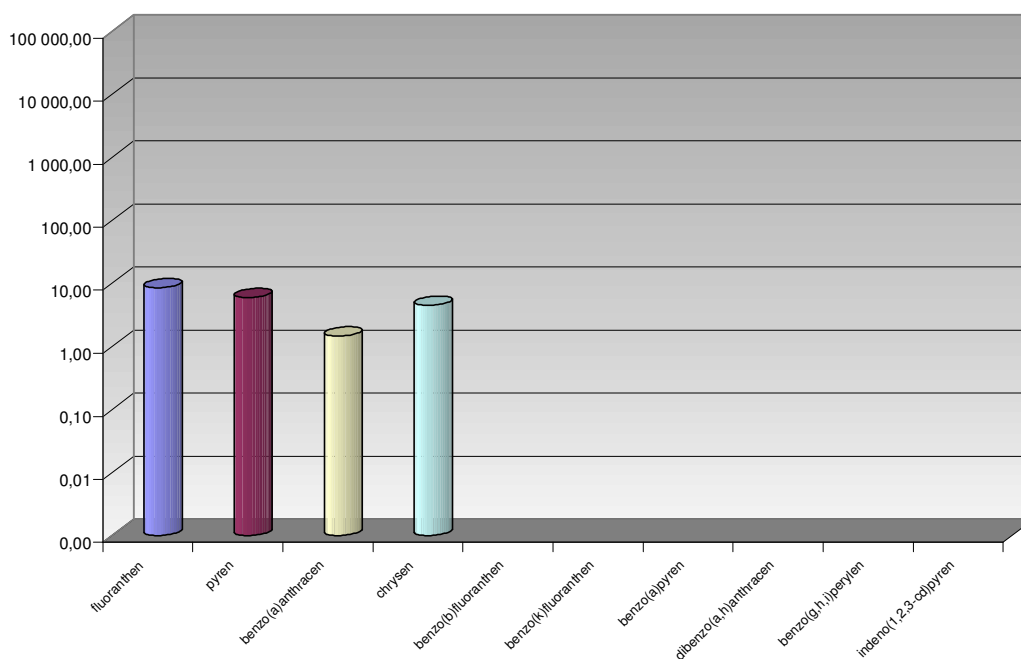
Pražská tepleřenská a.s. Teplárna Malešice K12 (TZL + Hg)



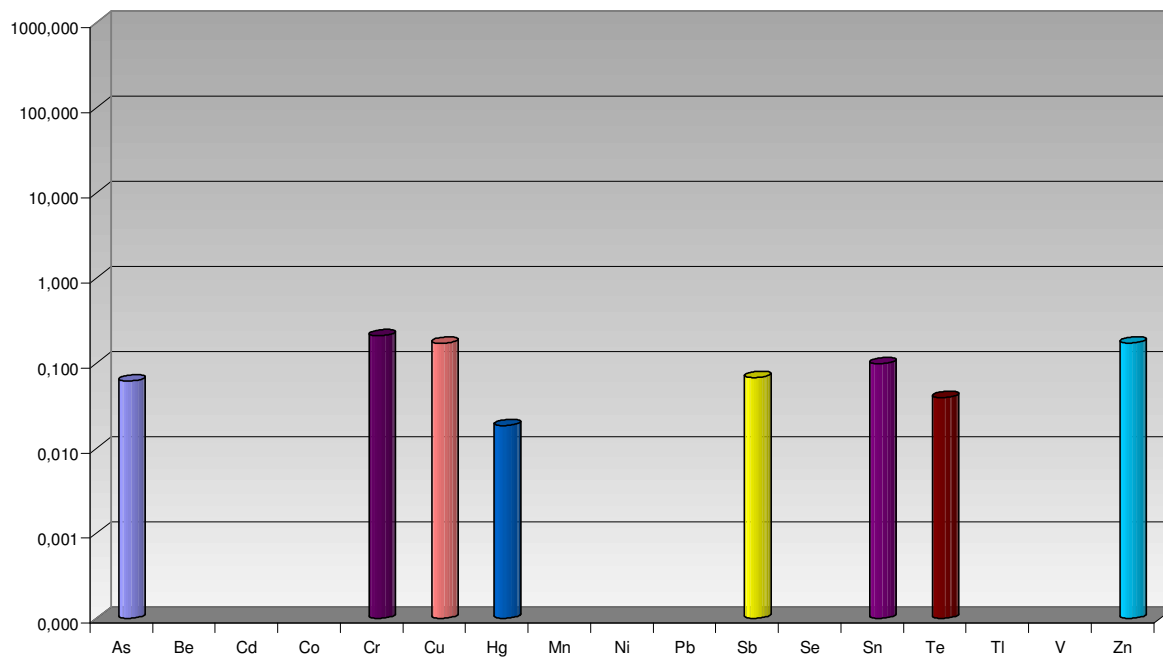
Spolana a.s. Neratovice - K6



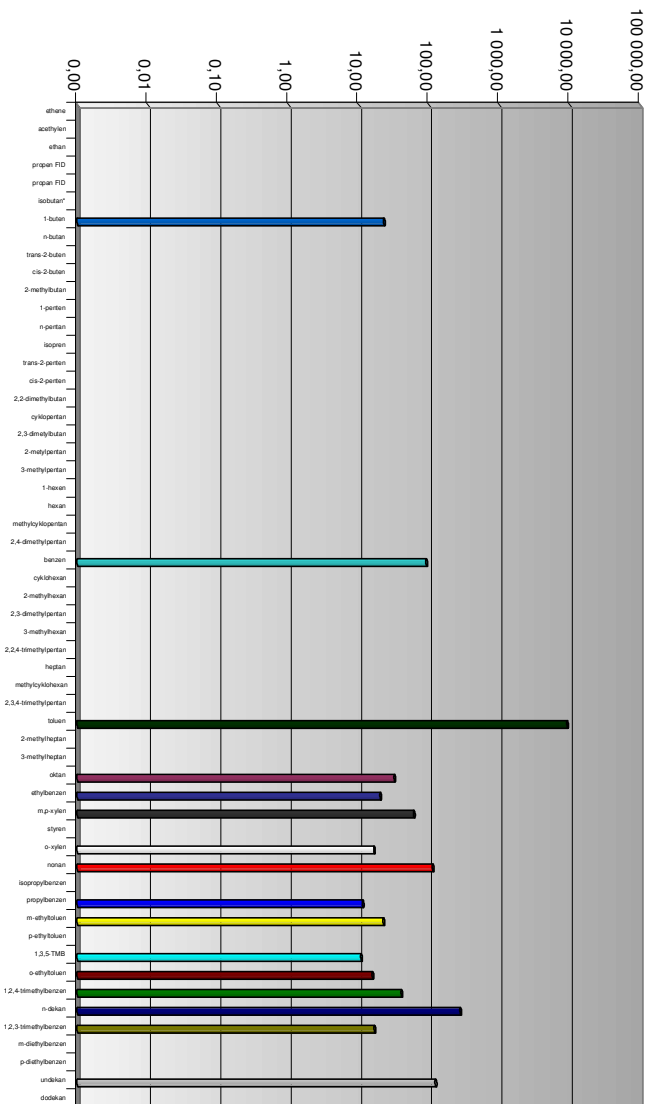
Spolana a.s. Neratovice - K6 (PAH)



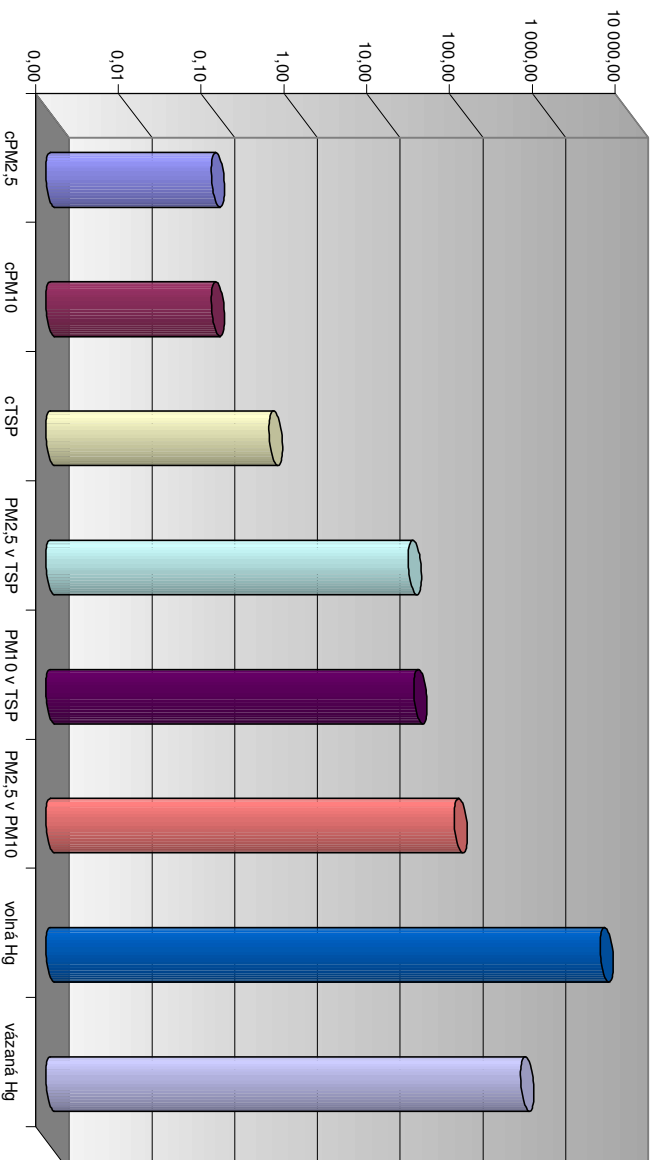
Spolana a.s. Neratovice - K6 (TK)



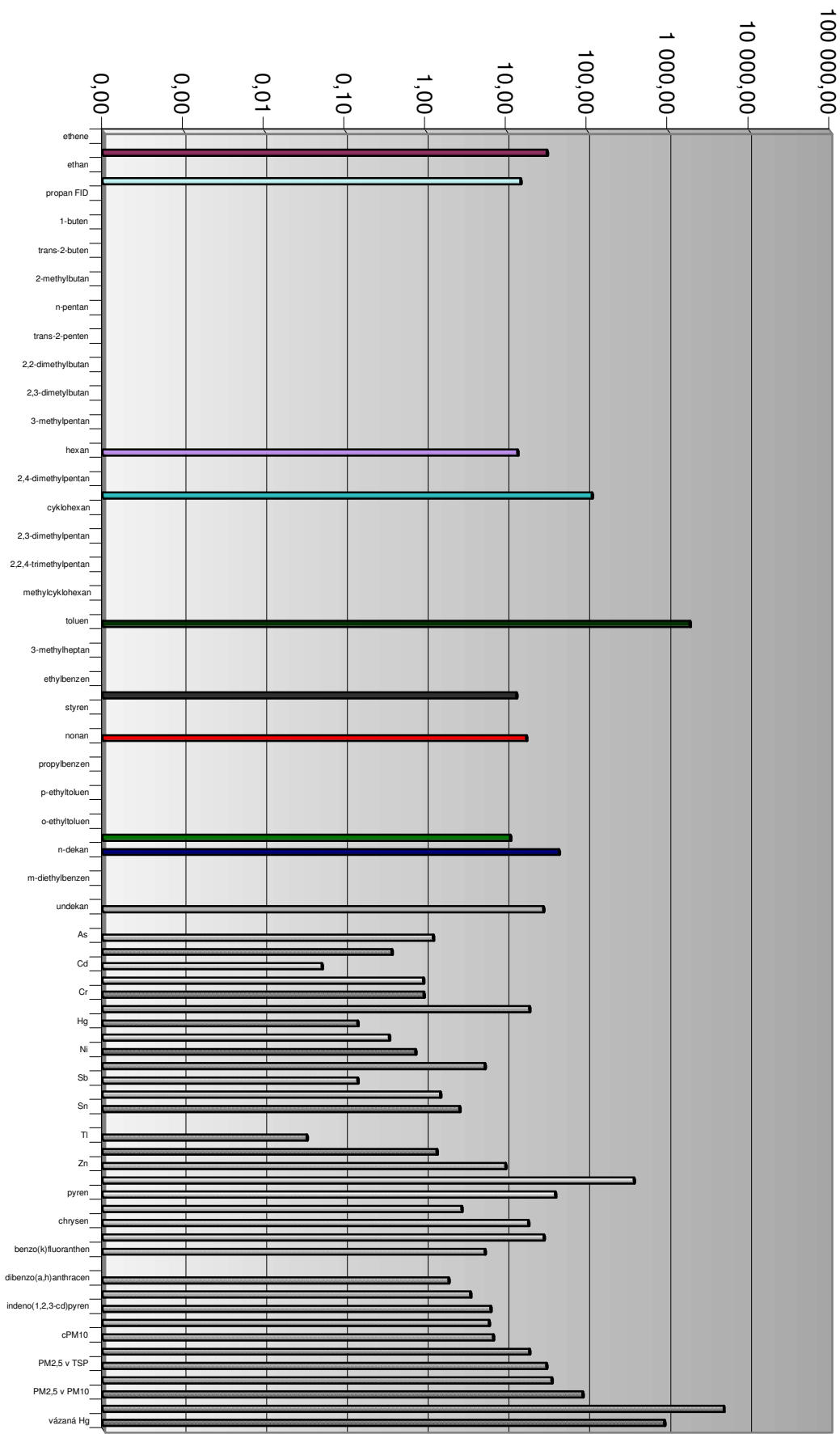
Spolana a.s. Neratovice - K6 (VOC)



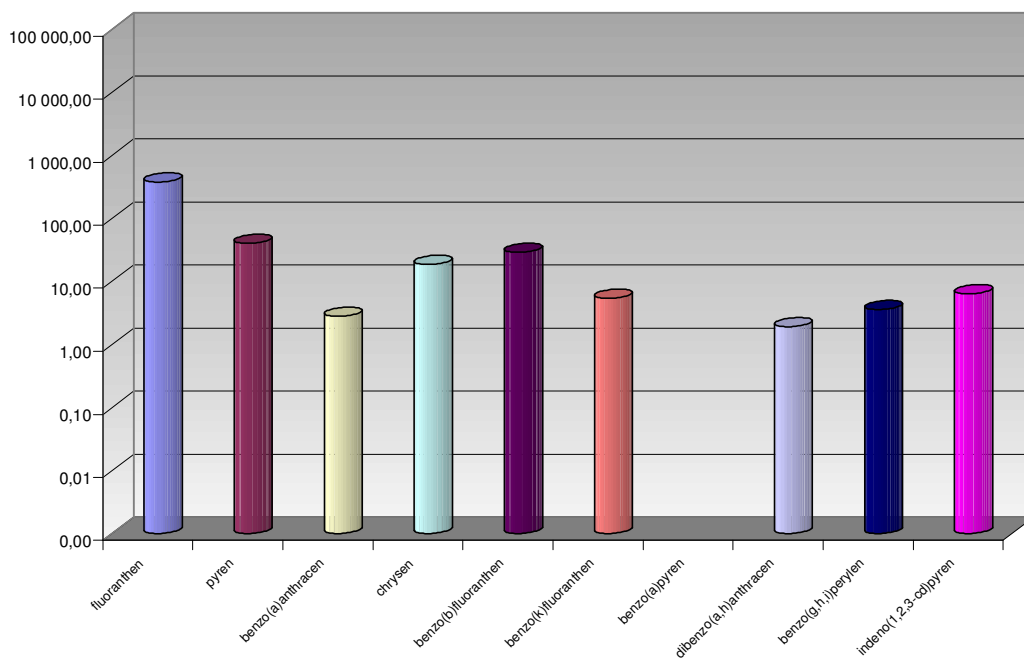
Spolana a.s. Neratovice - K6 (TZL + Hg)



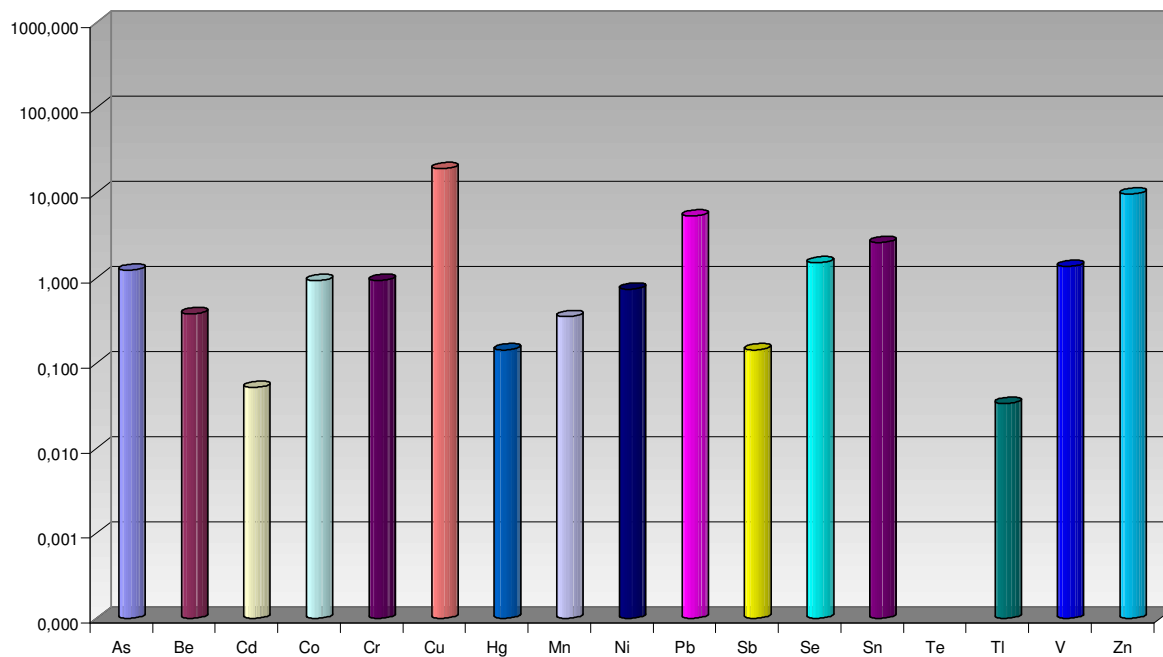
Elektrárna Kolín a.s. - K5



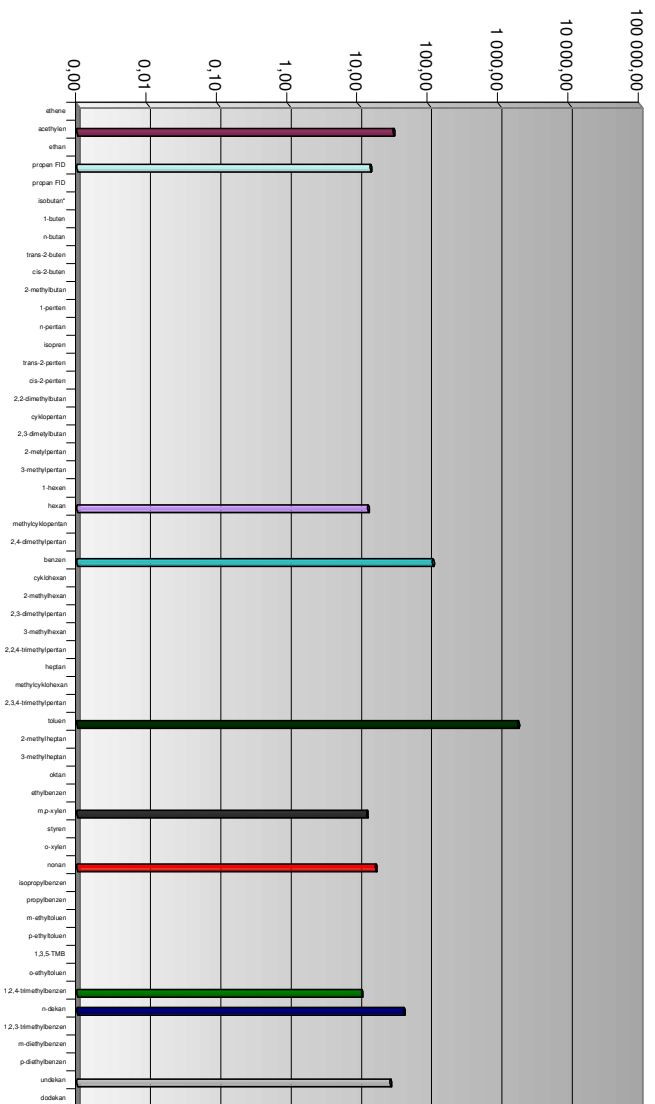
Elektrárna Kolín a.s. - K5 (PAH)



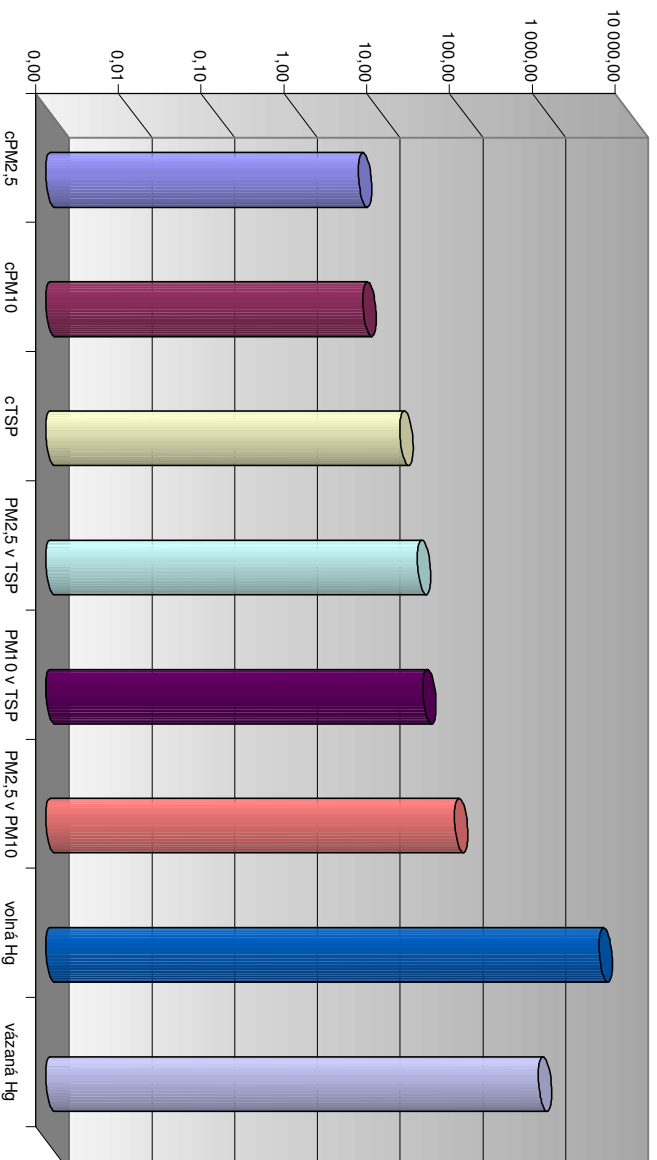
Elektrárna Kolín a.s. - K5 (TK)



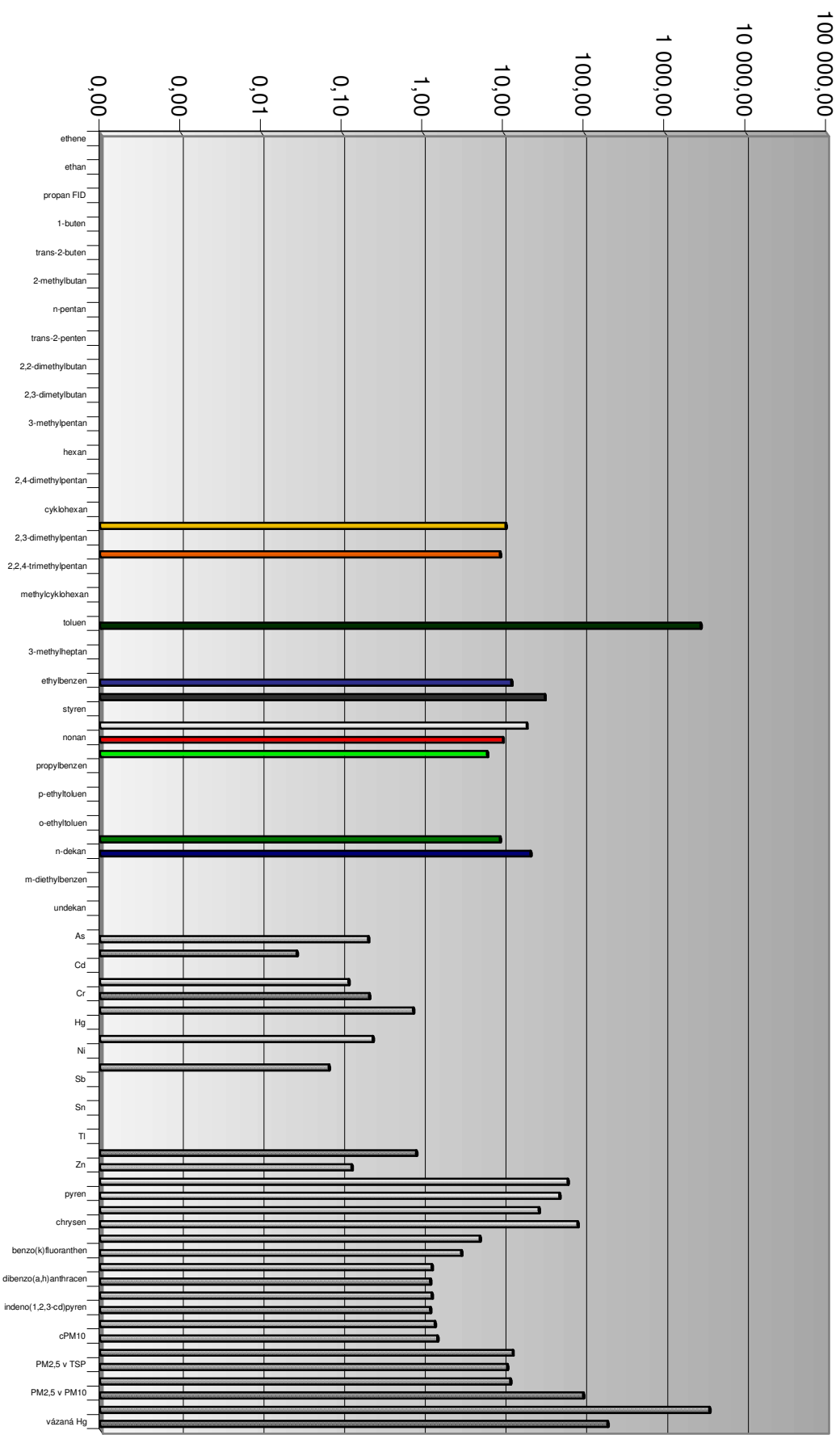
Elektrárna Kolin a.s. - K5 (VOC)



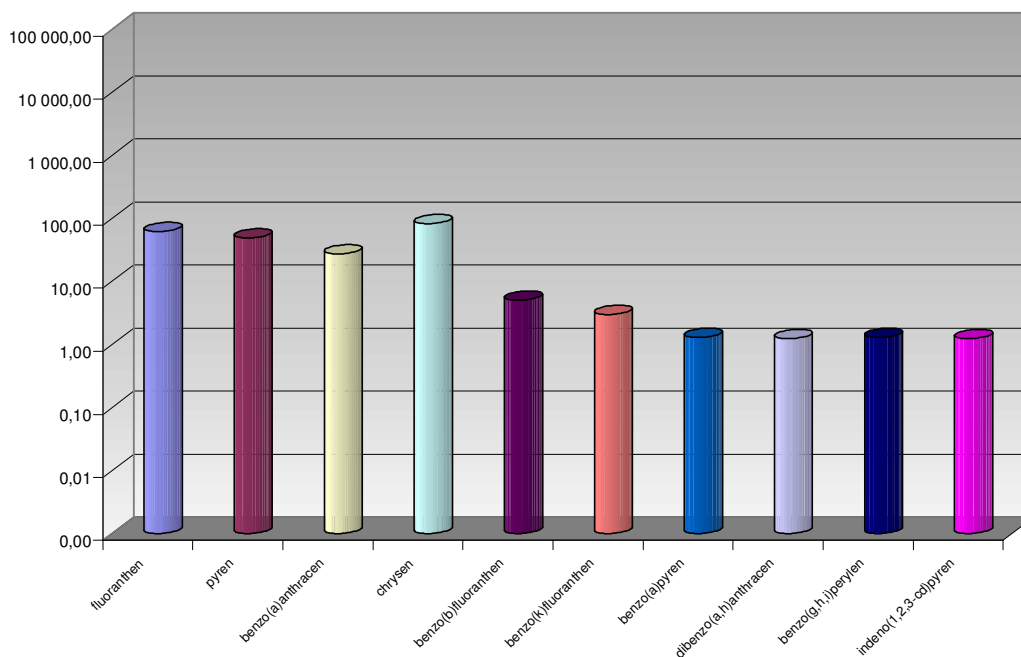
Elektrárna Kolin a.s. - K5 (TZL + Hg)



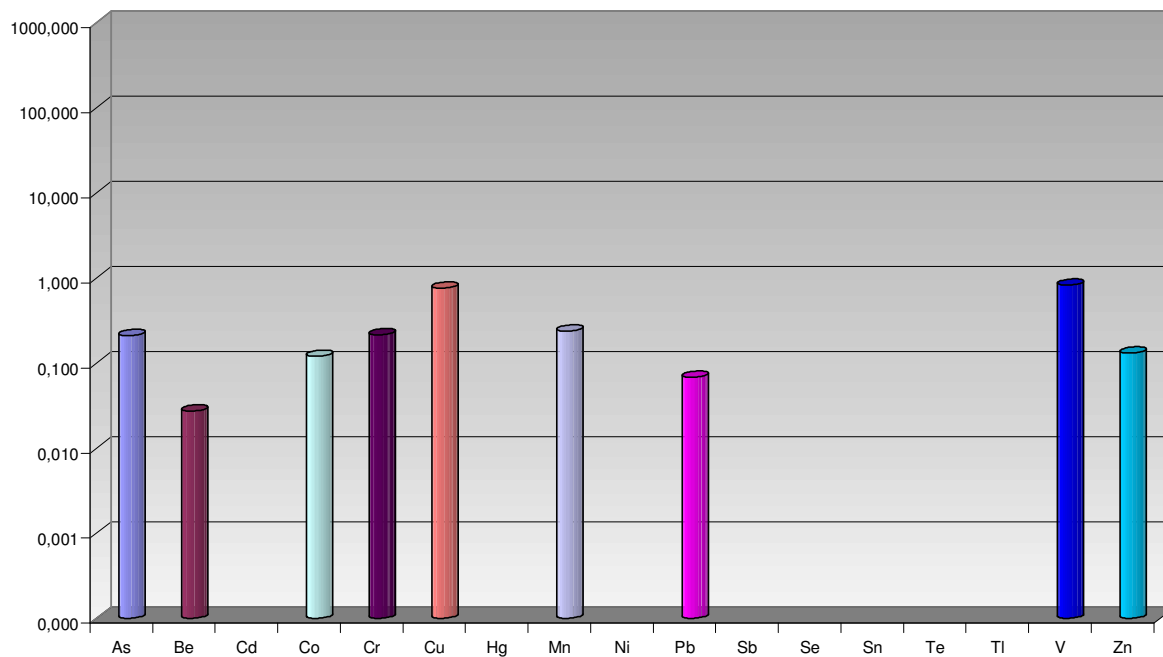
Elektrárna Kolín a.s. - K8



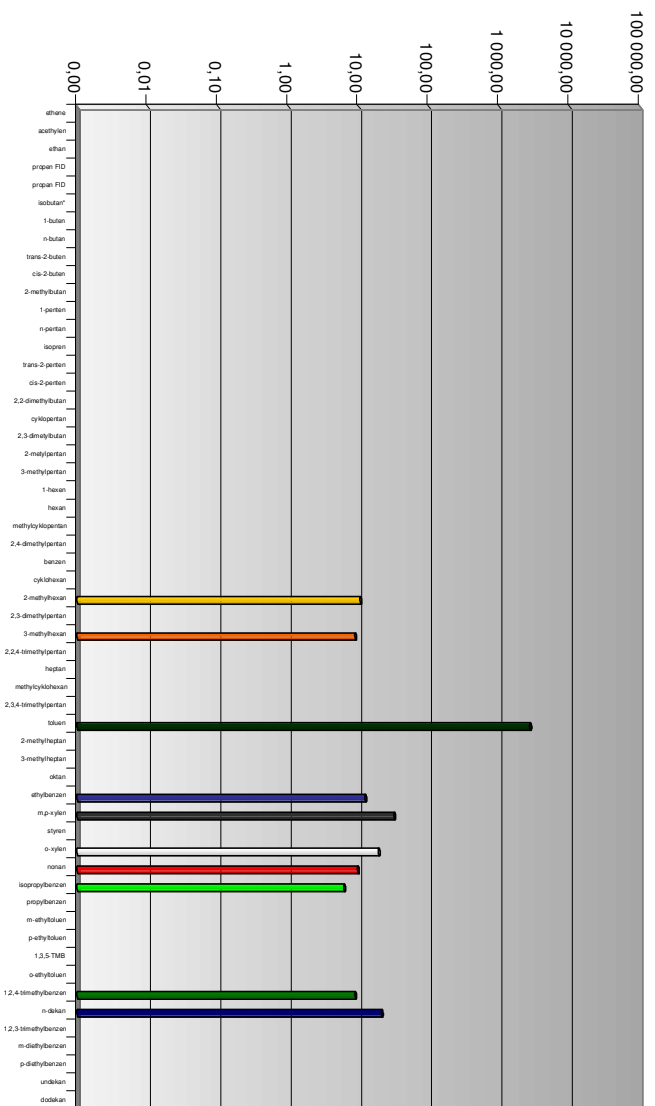
Elektrárna Kolín a.s. - K8 (PAH)



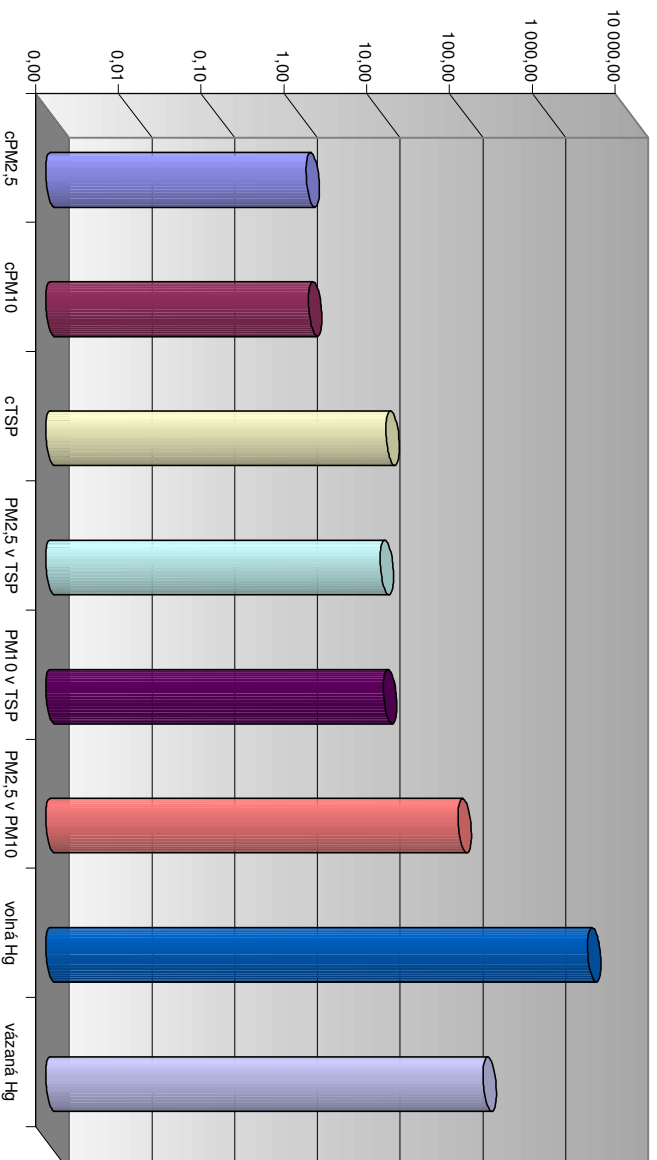
Elektrárna Kolín a.s. - K8 (TK)



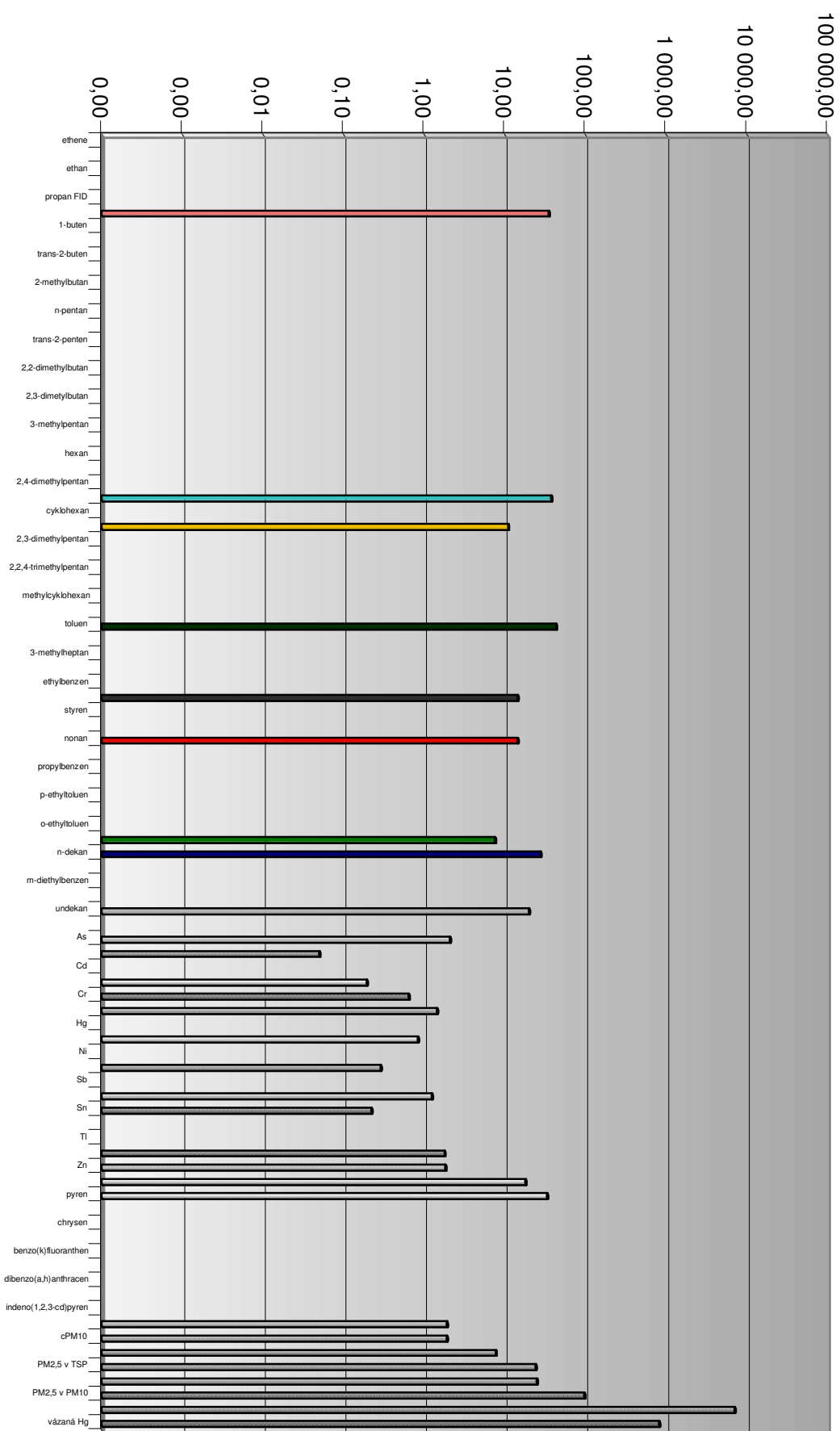
Elektrárna Kolin a.s. - K8 (VOC)



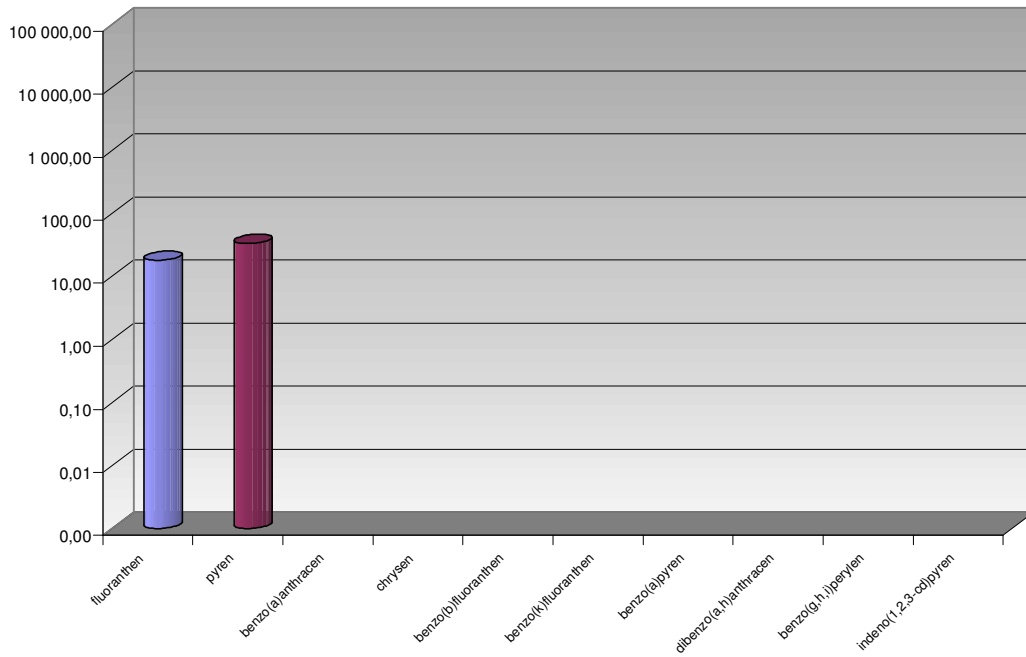
Elektrárna Kolin a.s. - K8 (TZL + Hg)



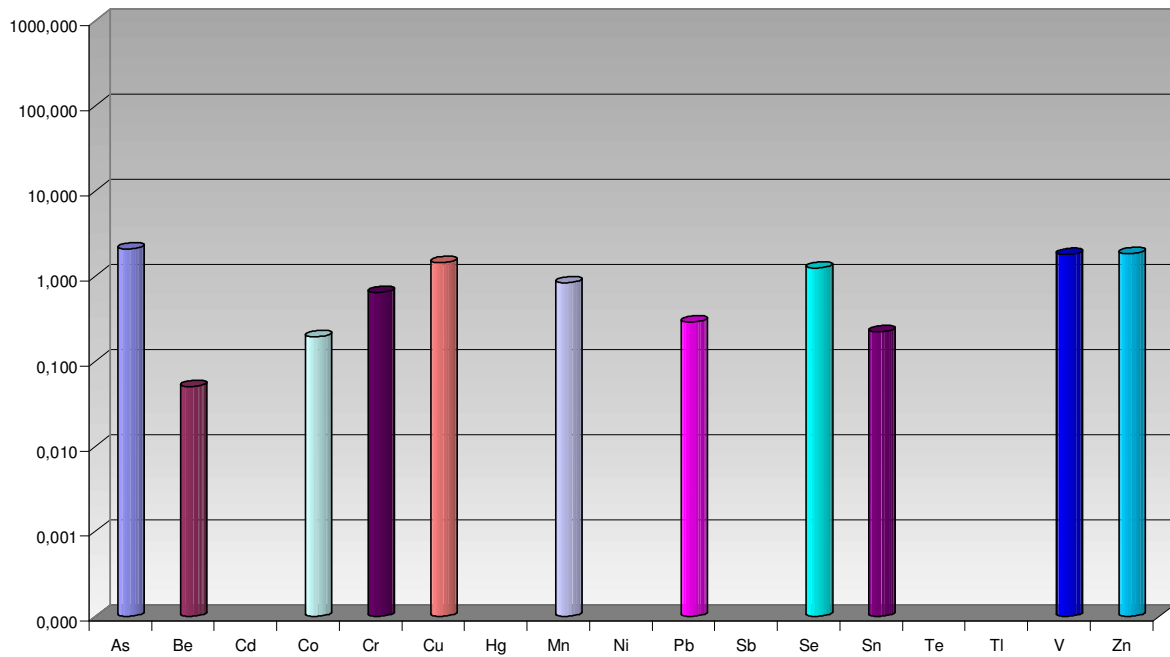
ČEZ a.s., elektrárna Mělník II - blok 11



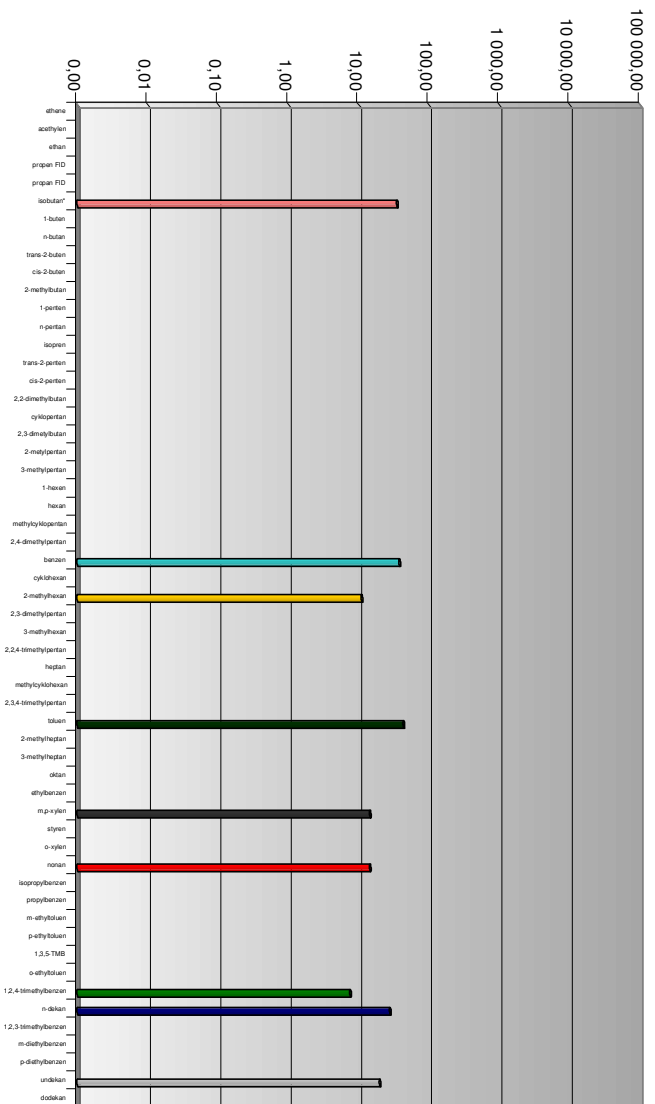
ČEZ a.s., elektrárna Mělník II - blok 11 (PAH)



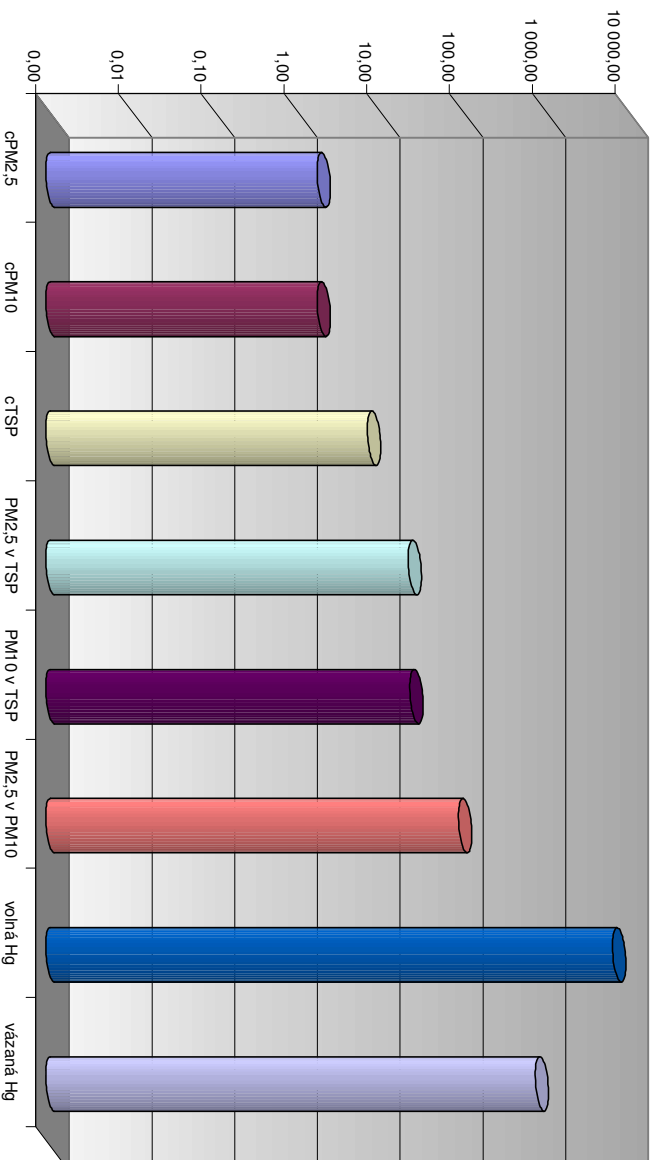
ČEZ a.s., elektrárna Mělník II - blok 11 (TK)



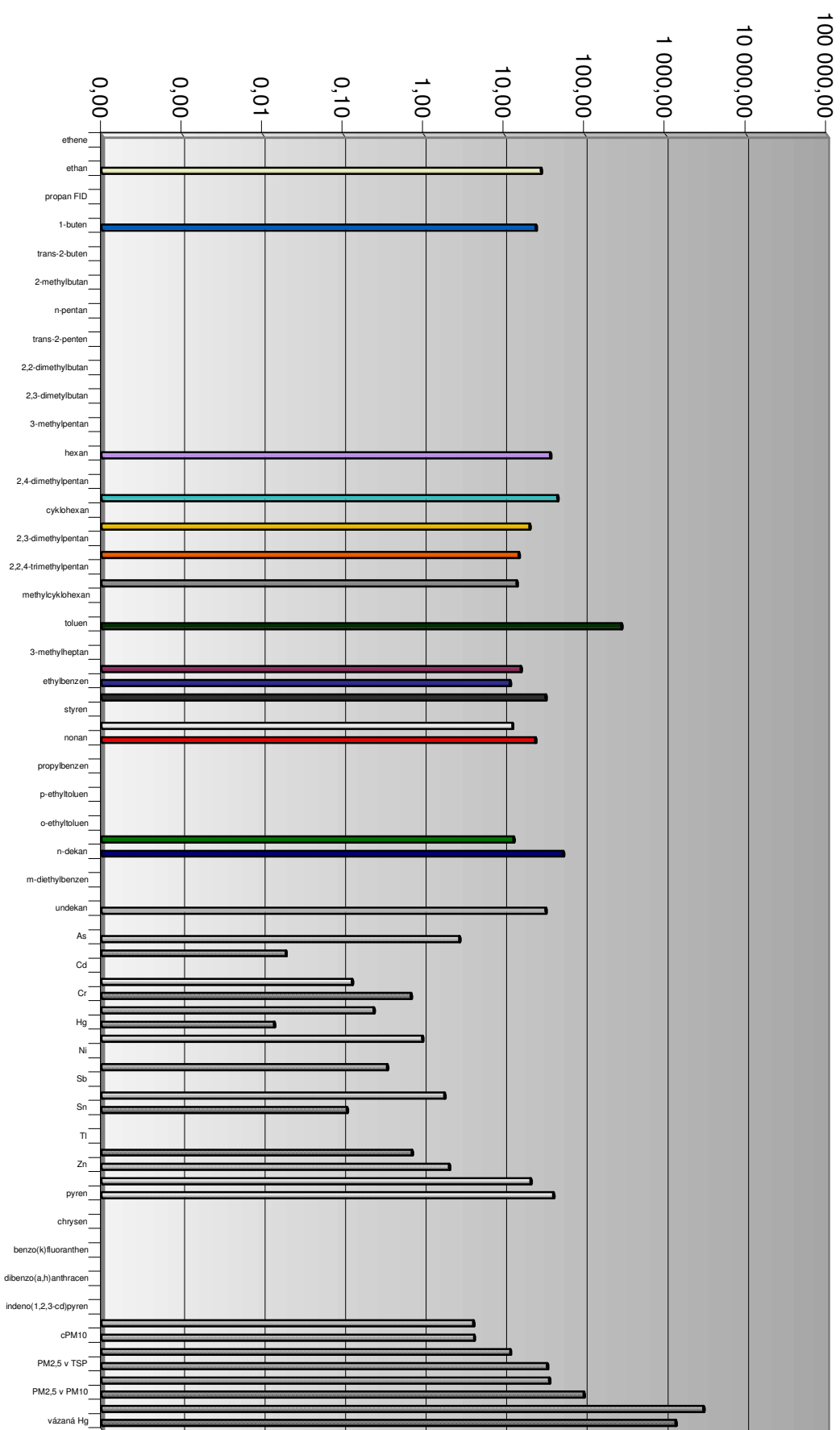
ČEZ a.s., elektrárna Mělník II - blok 11 (VOC)



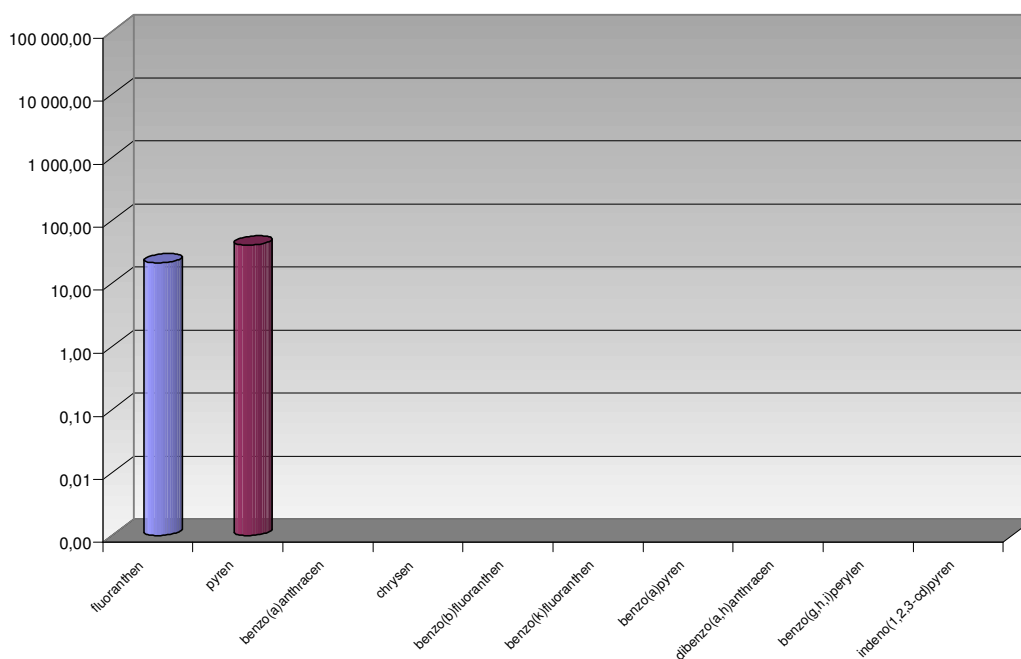
ČEZ a.s., elektrárna Mělník II - blok 11 (TZL + Hg)



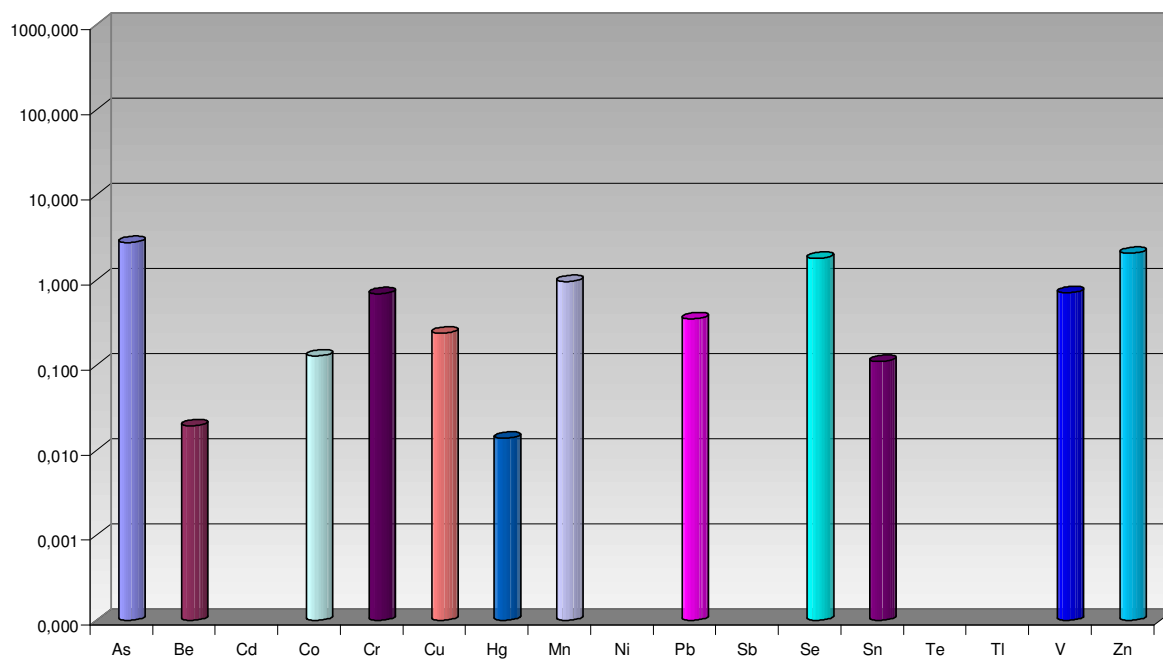
ČEZ a.s., elektrárna Mělník II - blok 9



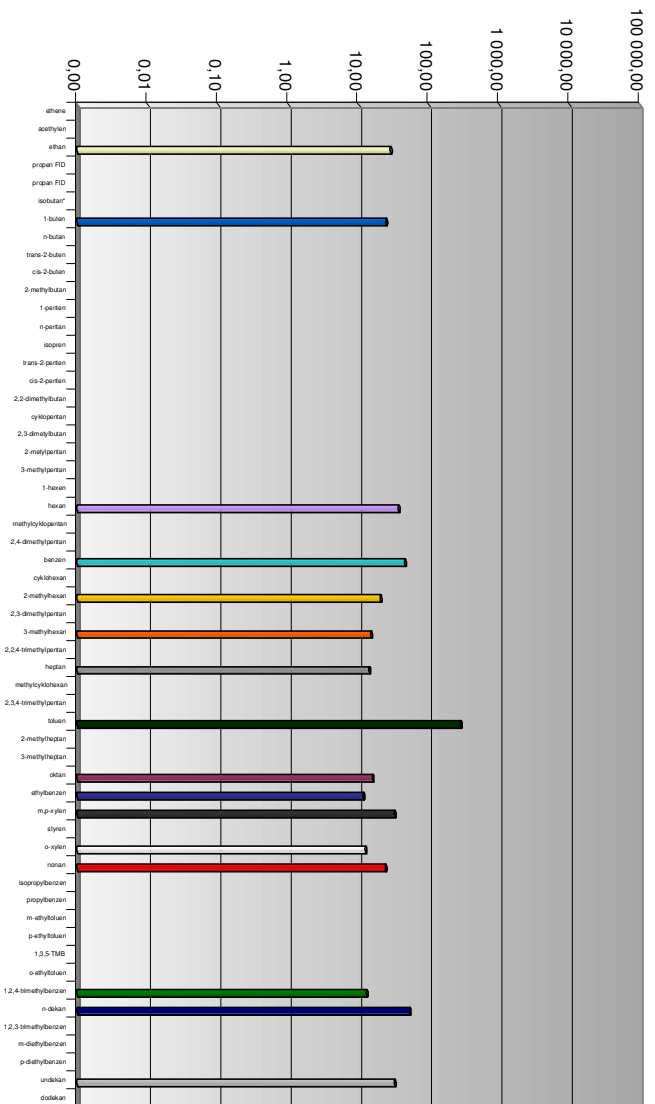
ČEZ a.s., elektrárna Mělník II - blok 9 (PAH)



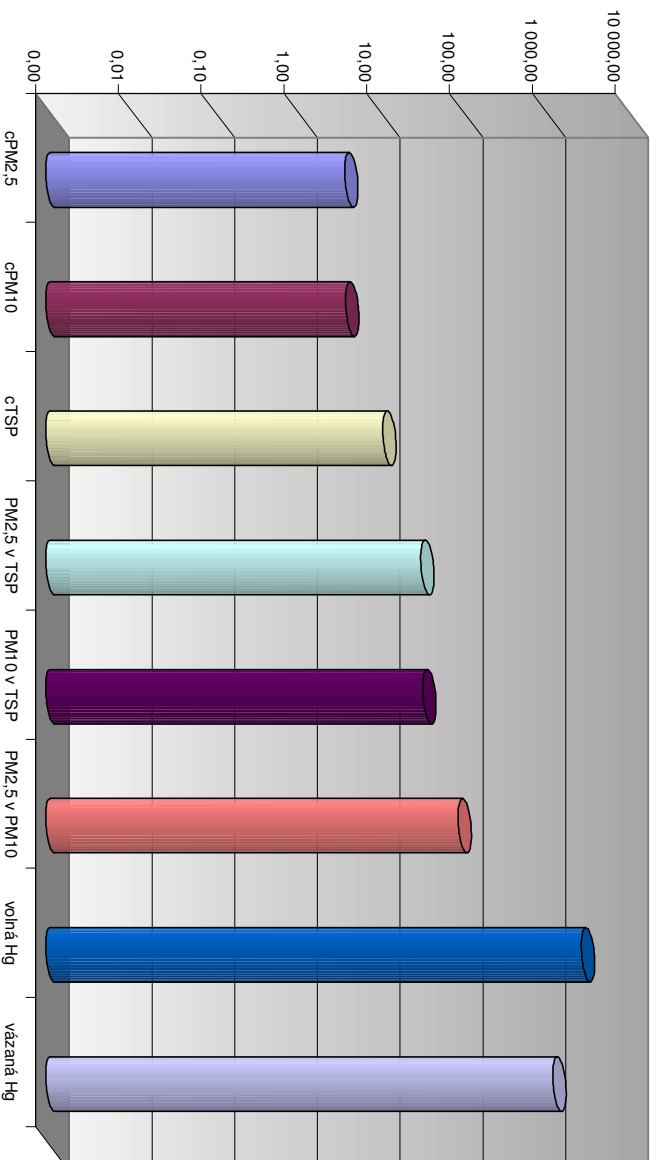
ČEZ a.s., elektrárna Mělník II - blok 9 (TK)



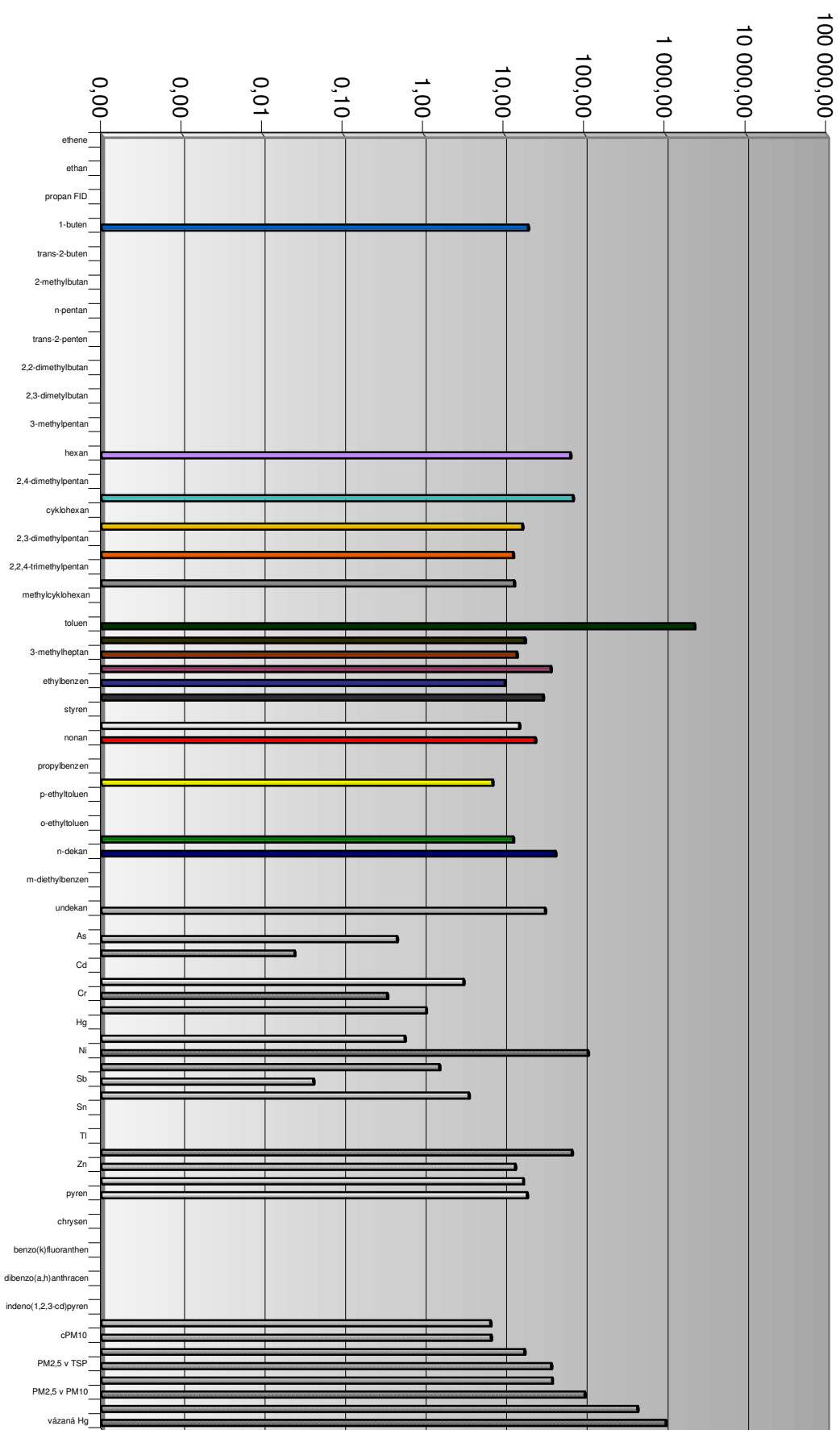
ČEZ a.s., elektrárna Mělník II - blok 9 (VOC)



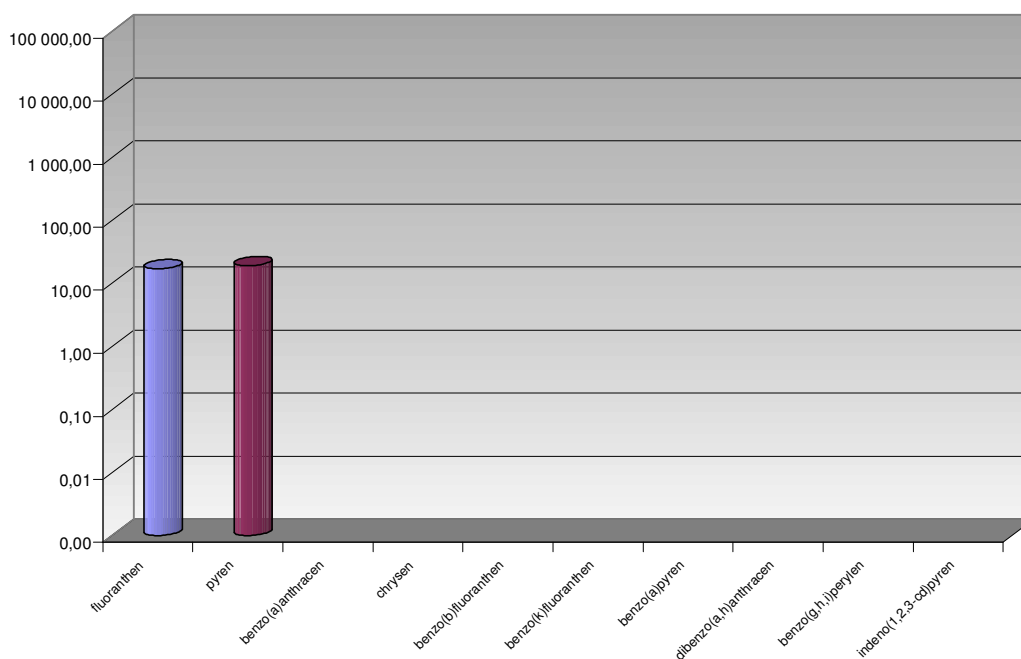
ČEZ a.s., elektrárna Mělník II - blok 9 (TZL + Hg)



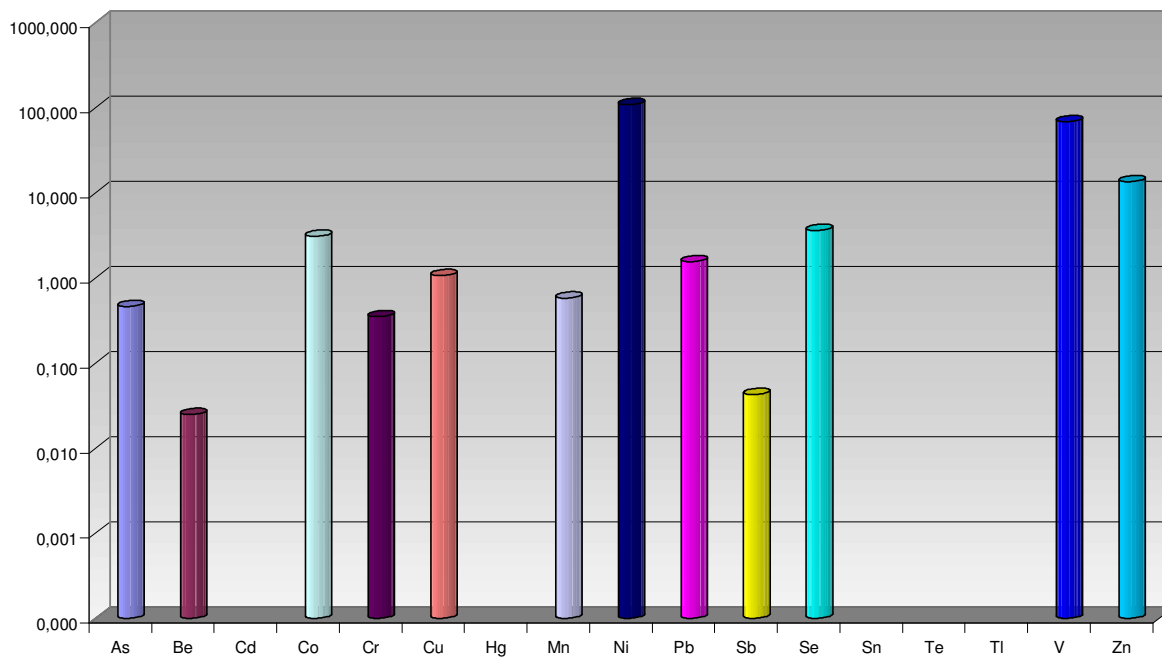
Kaučuk a.s., Kralupy - K1



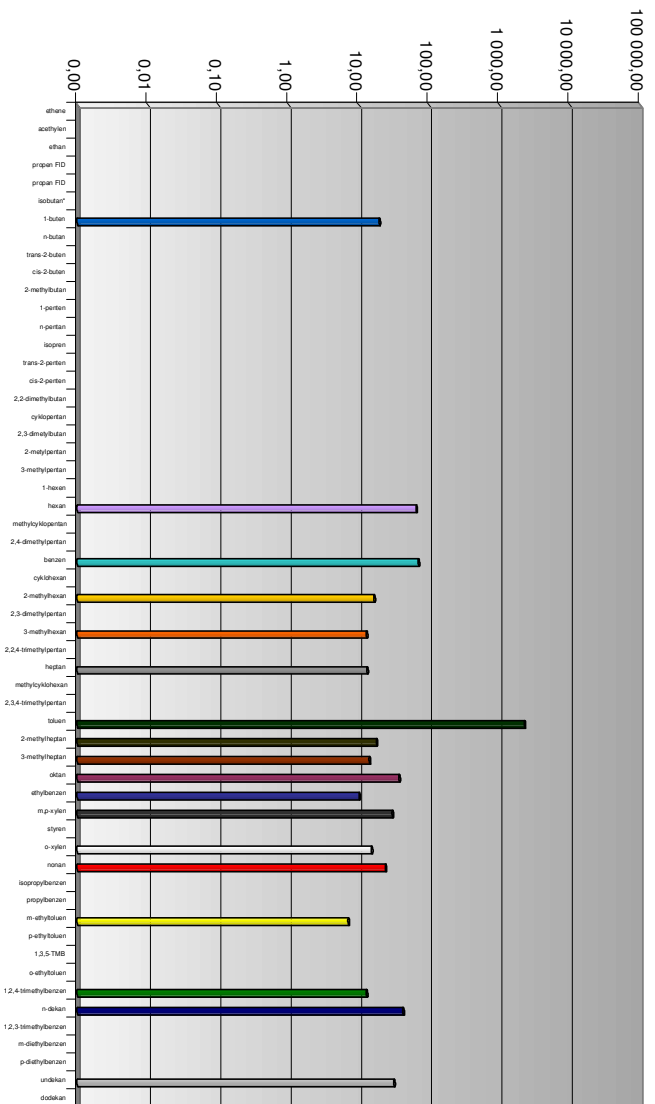
Kaučuk a.s., Kralupy - K1 (PAH)



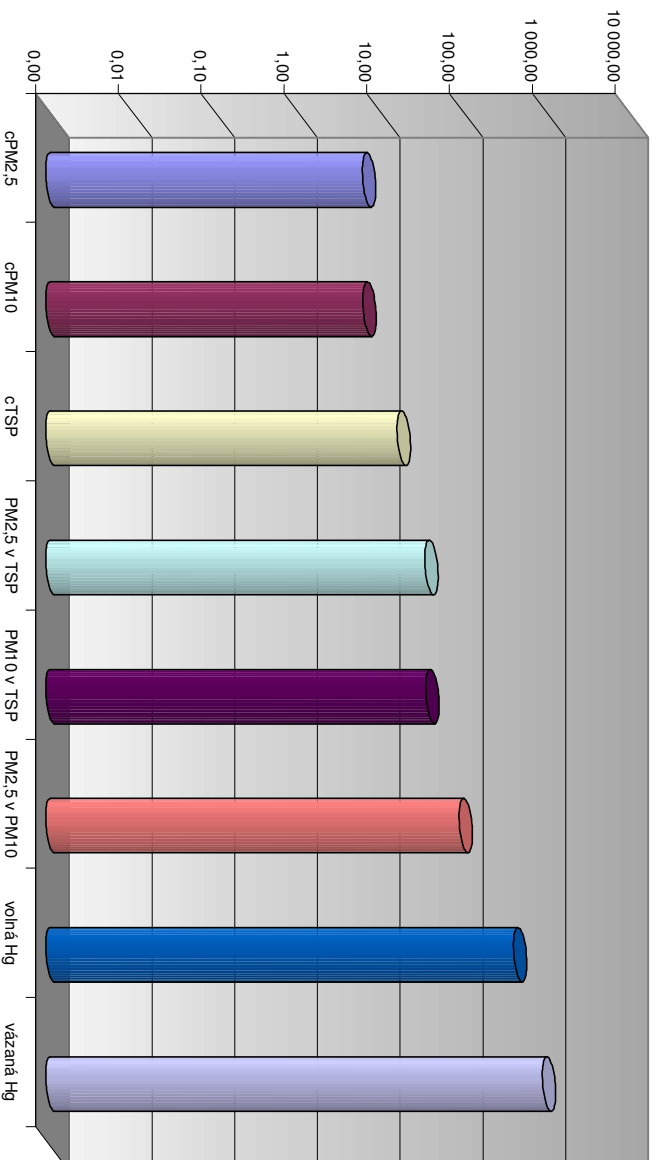
Kaučuk a.s., Kralupy - K1 (TK)



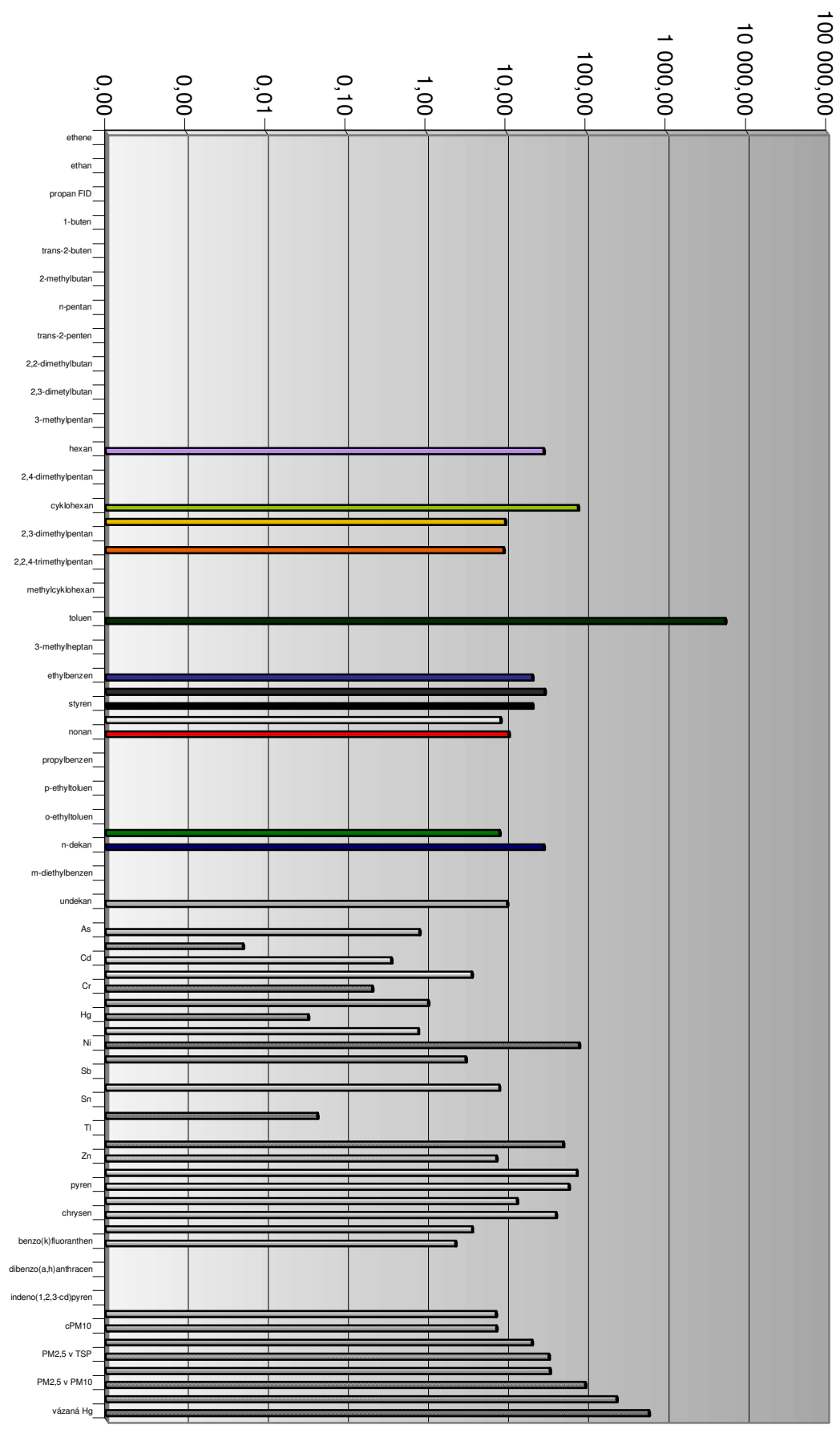
Kaučuk a.s., Kralupy - K1 (VOC)



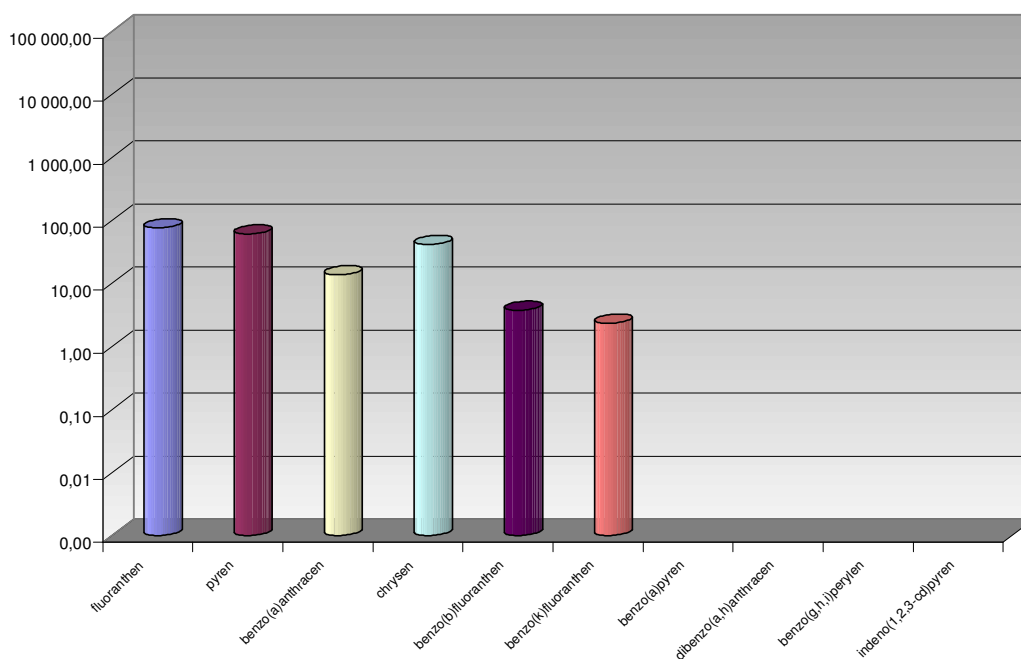
Kaučuk a.s., Kralupy - K1 (TZL + Hg)



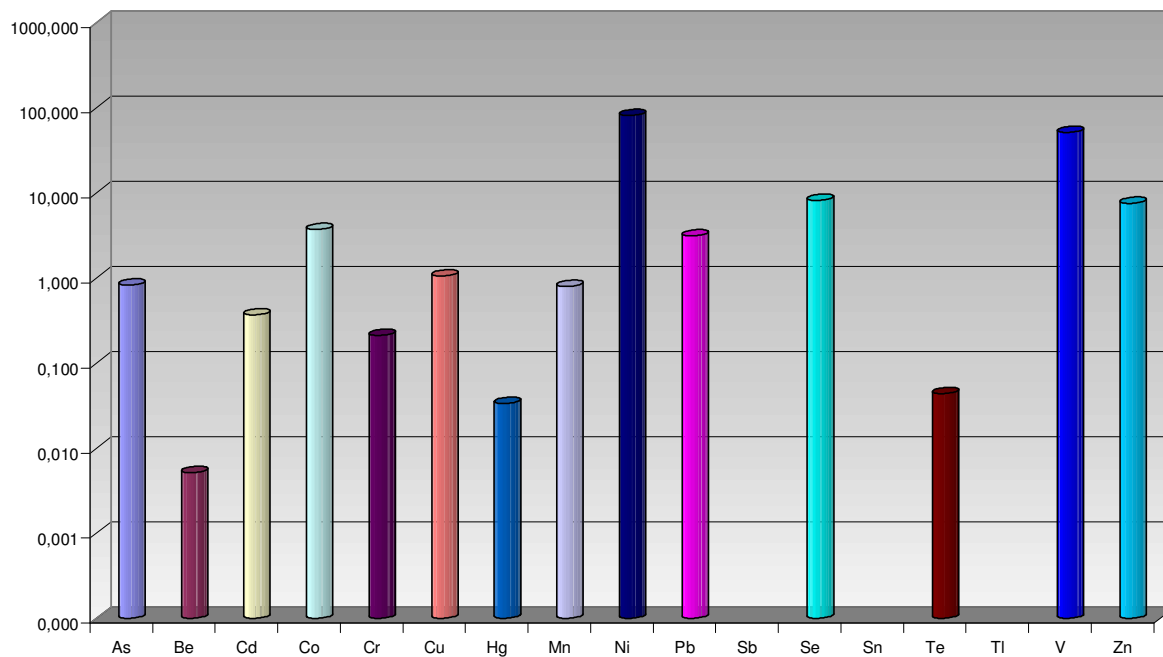
Kaučuk a.s., Kralupy - K3



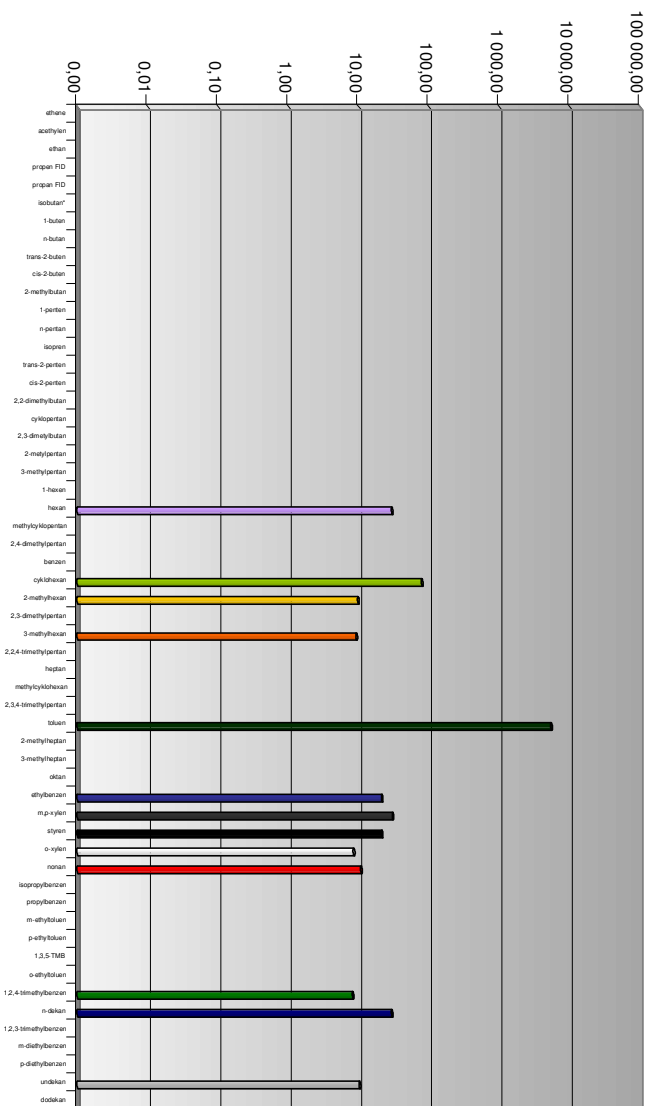
Kaučuk a.s., Kralupy - K3 (PAH)



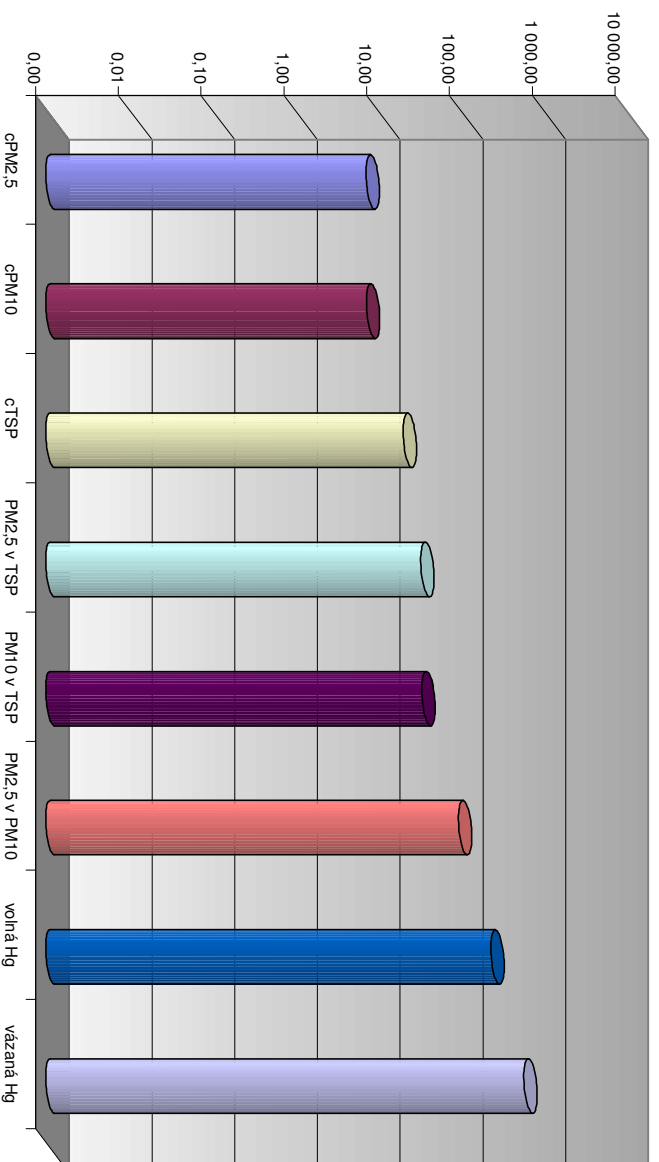
Kaučuk a.s., Kralupy - K3 (TK)



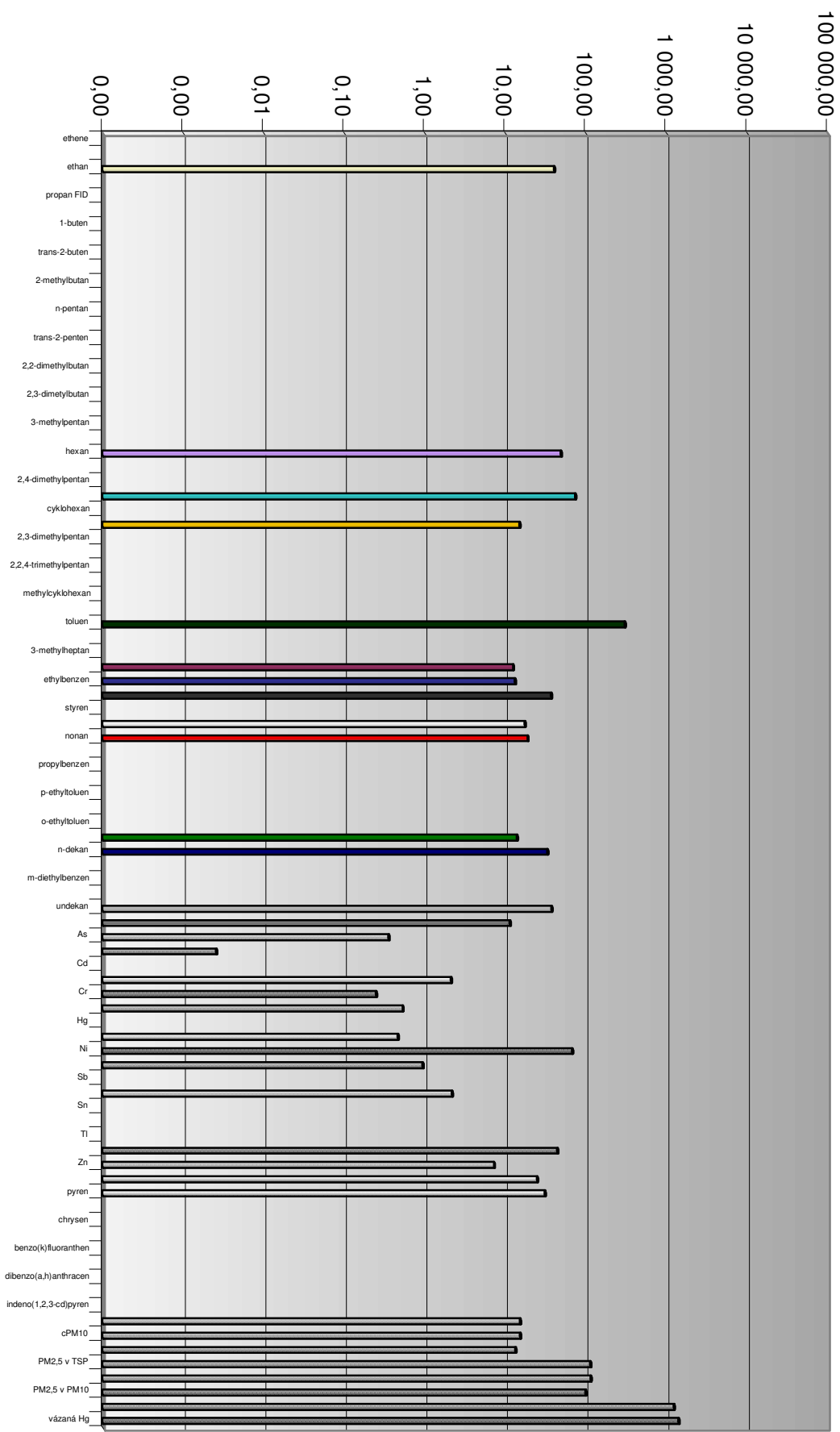
Kaučuk a.s., Kralupy - K3 (VOC)



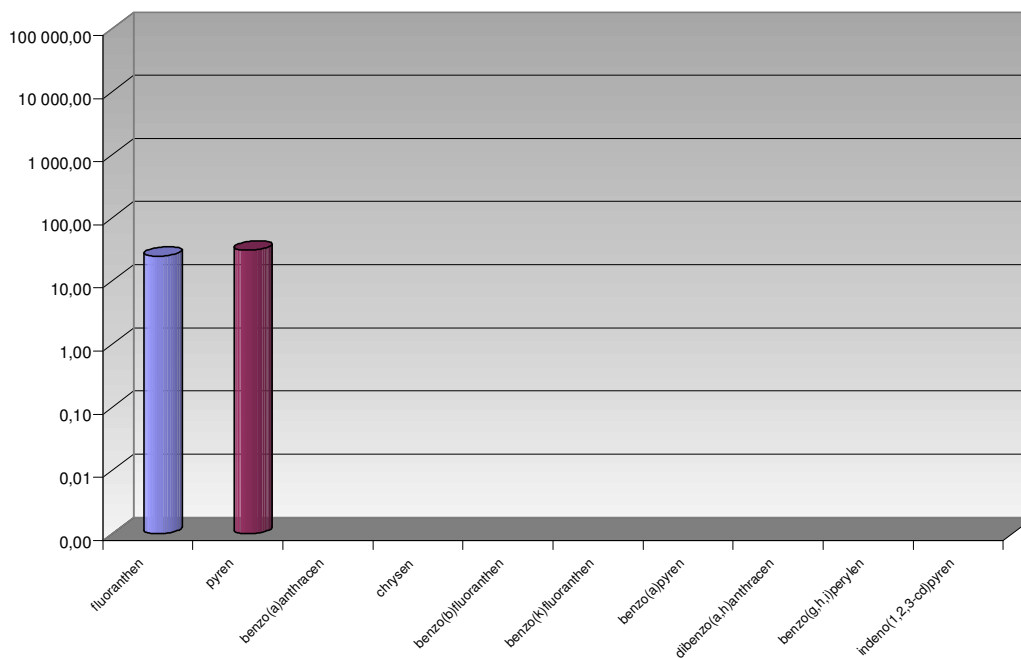
Kaučuk a.s., Kralupy - K3 (TZL + Hg)



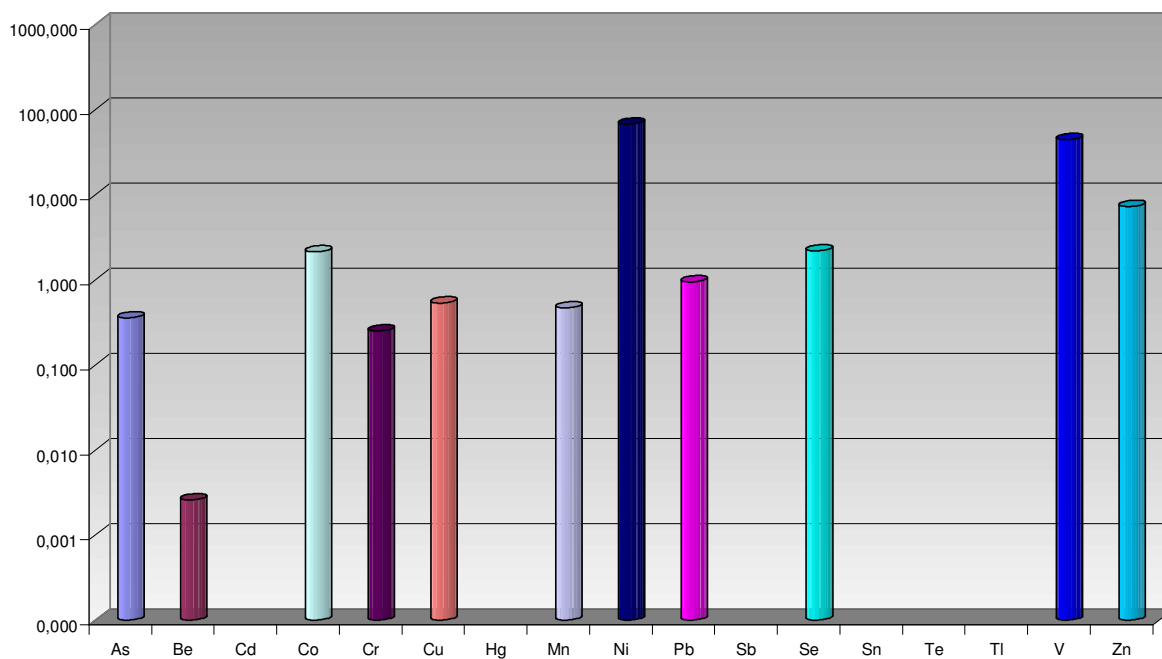
Kaučuk a.s., Kralupy - K4



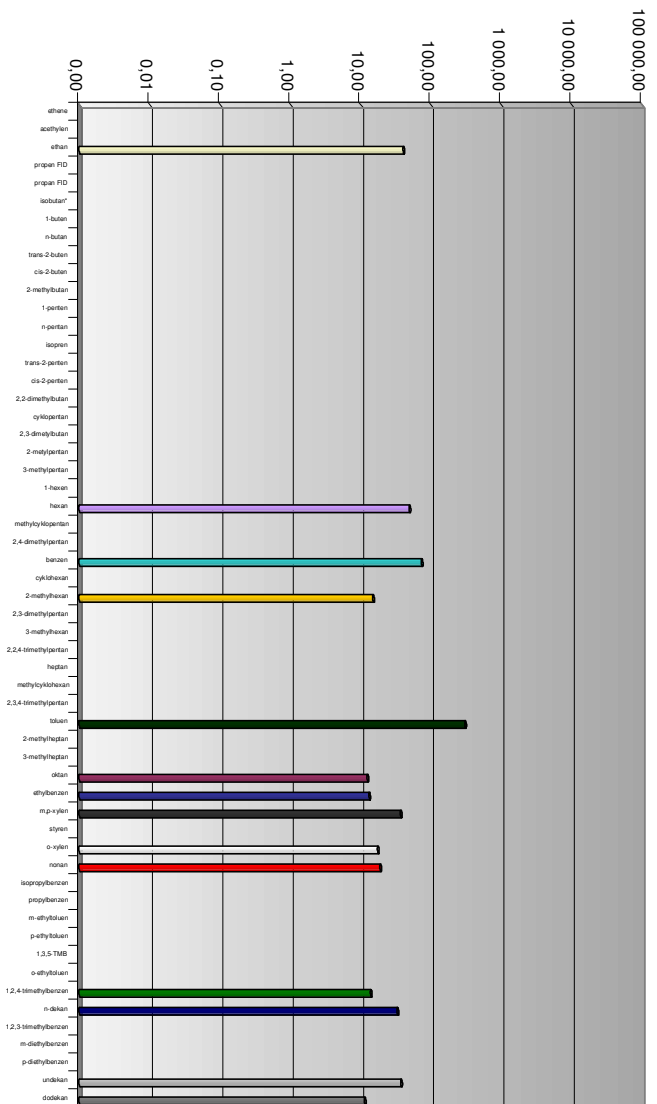
Kaučuk a.s., Kralupy - K4 (PAH)



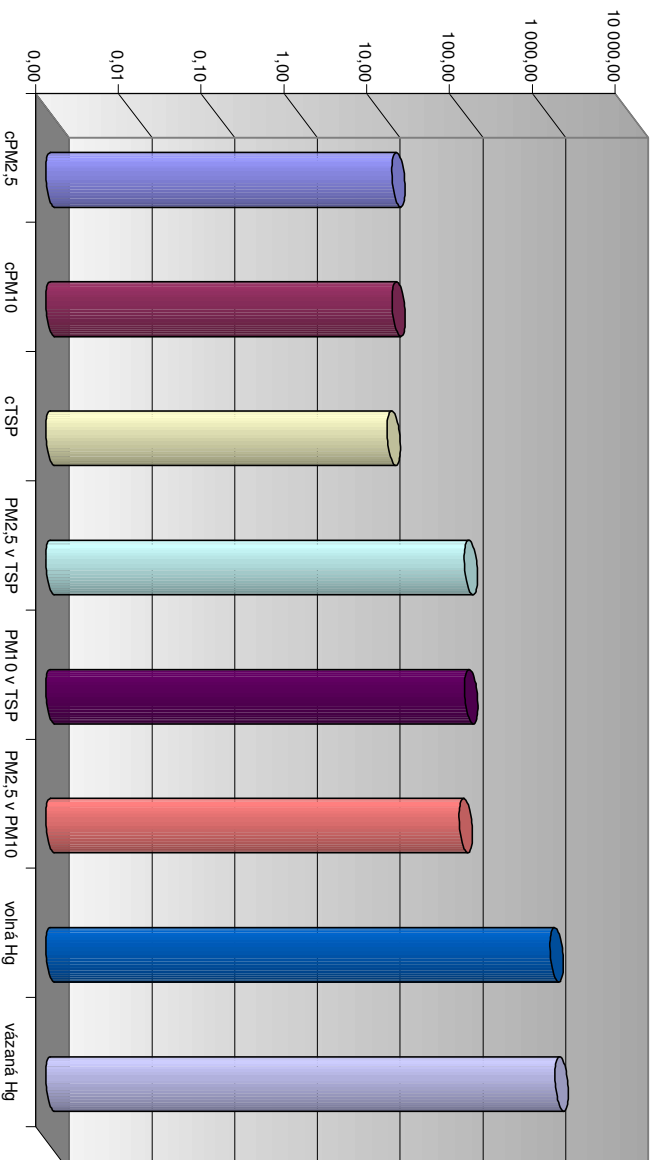
Kaučuk a.s., Kralupy - K4 (TK)



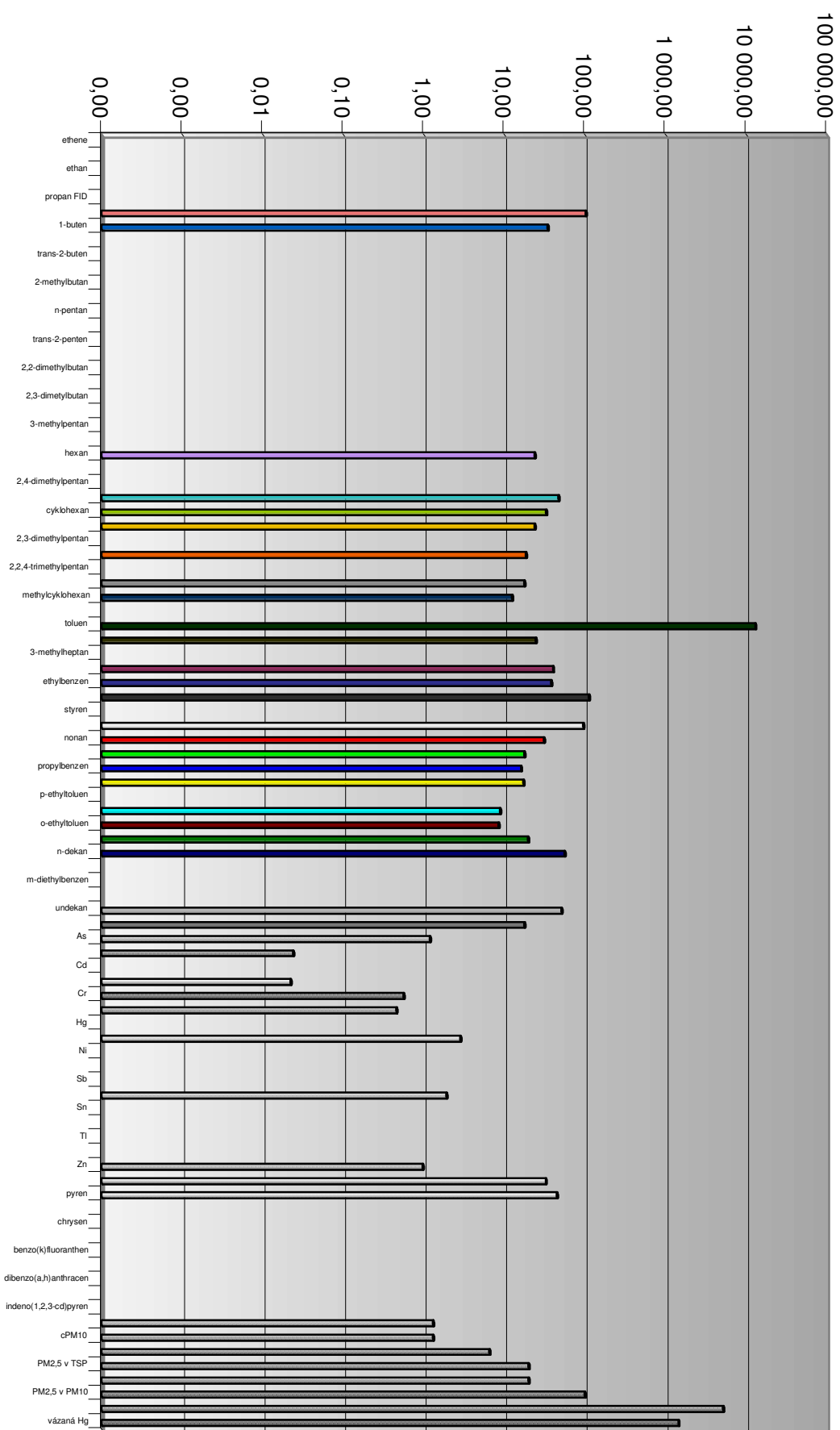
Kaučuk a.s., Kralupy - K4 (VOC)



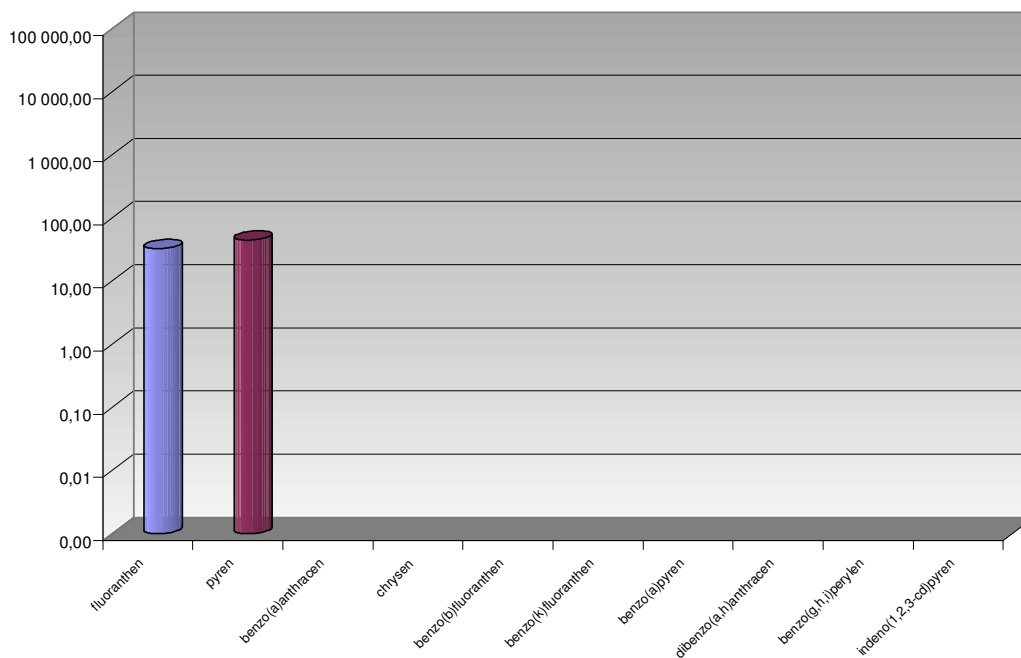
Kaučuk a.s., Kralupy - K4 (TZL + Hg)



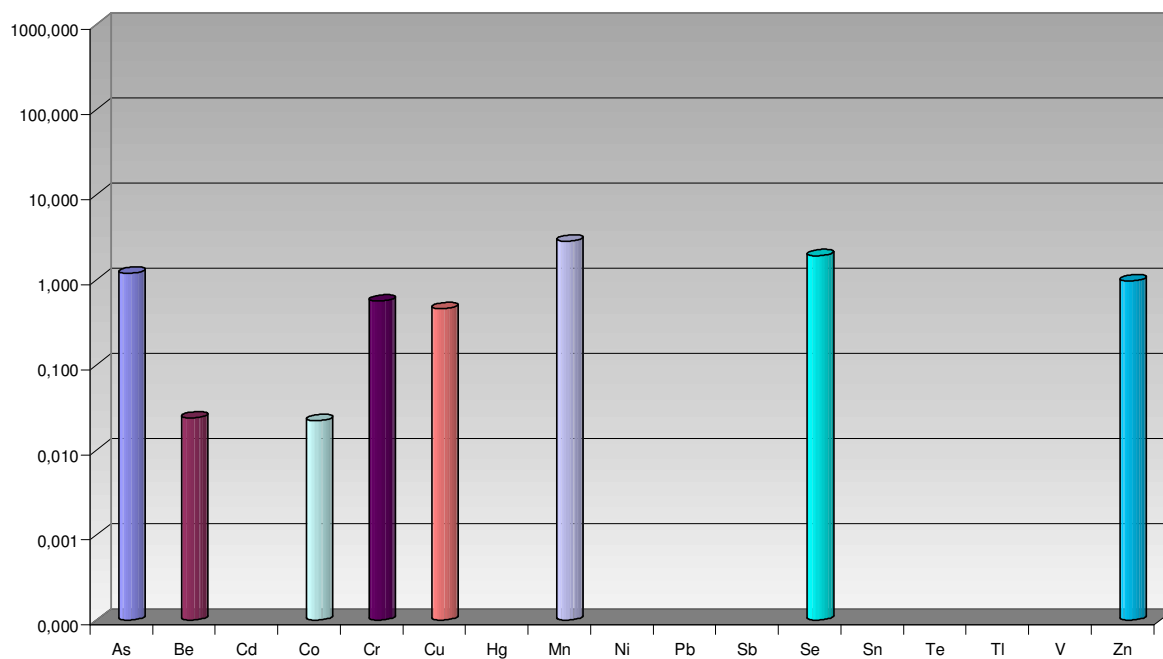
Elektrárna Mělník I - Energotrans - K1, K2, K3



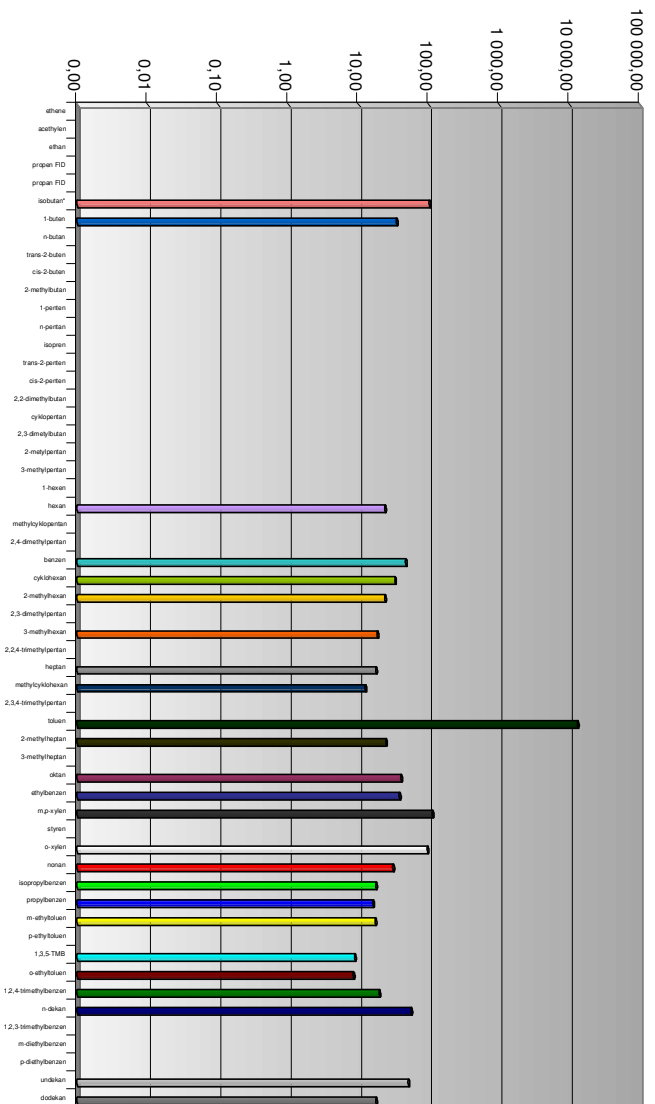
Elektrárna Mělník I - Energotrans - K1, K2, K3 (PAH)



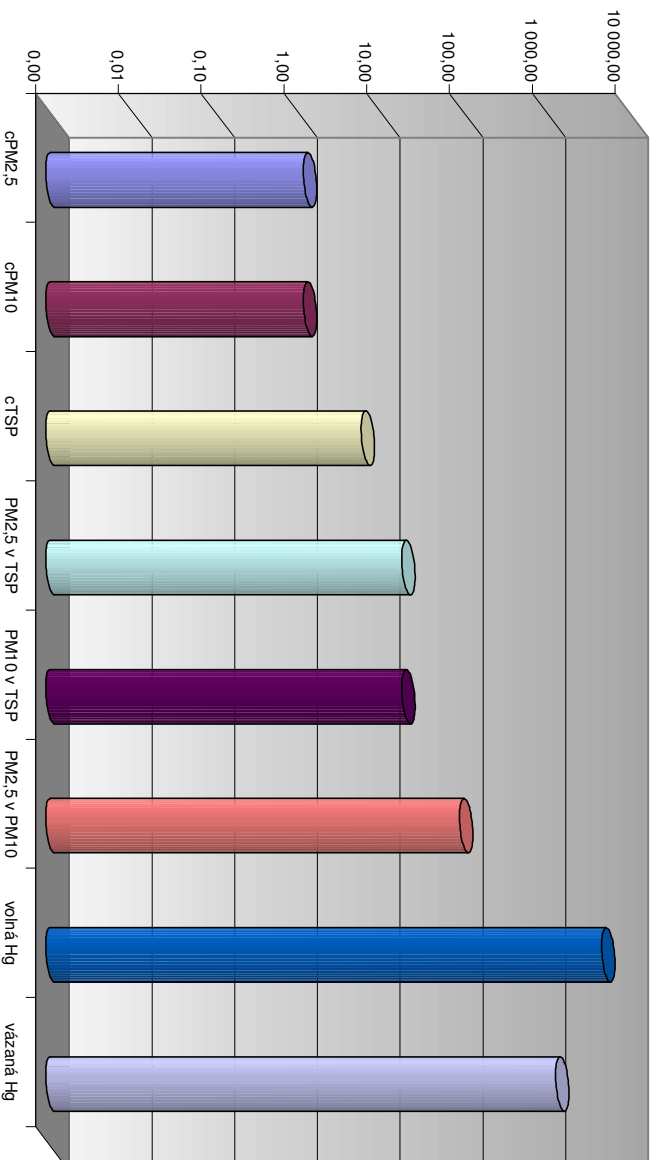
Elektrárna Mělník I - Energotrans - K1, K2, K3 (TK)



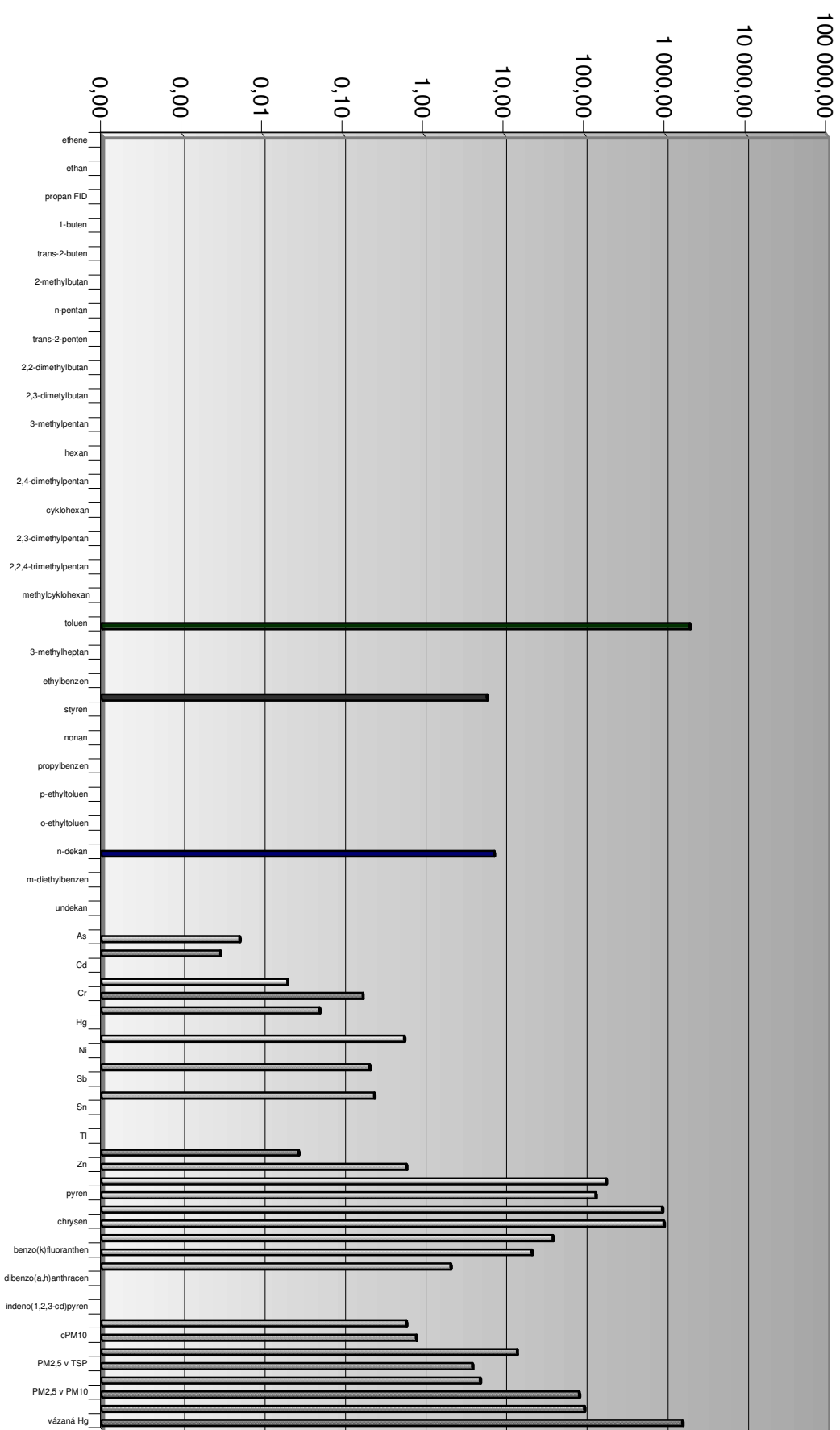
Elektrárna Melník I - Energotrans - K1, K2, K3 (VOC)



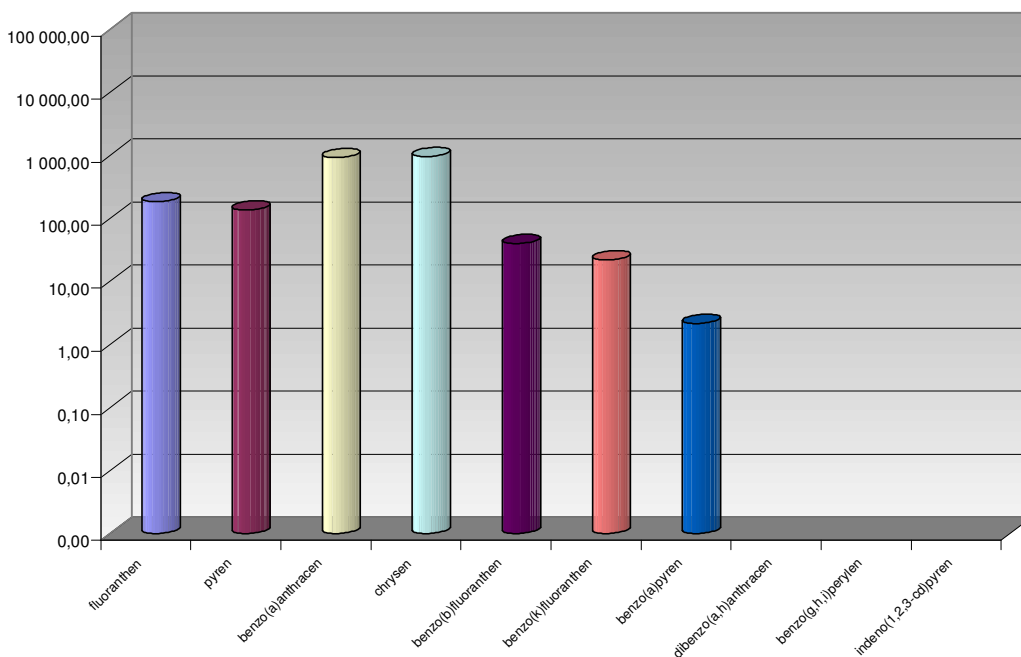
Elektrárna Melník I - Energotrans - K1, K2, K3 (TZL + Hg)



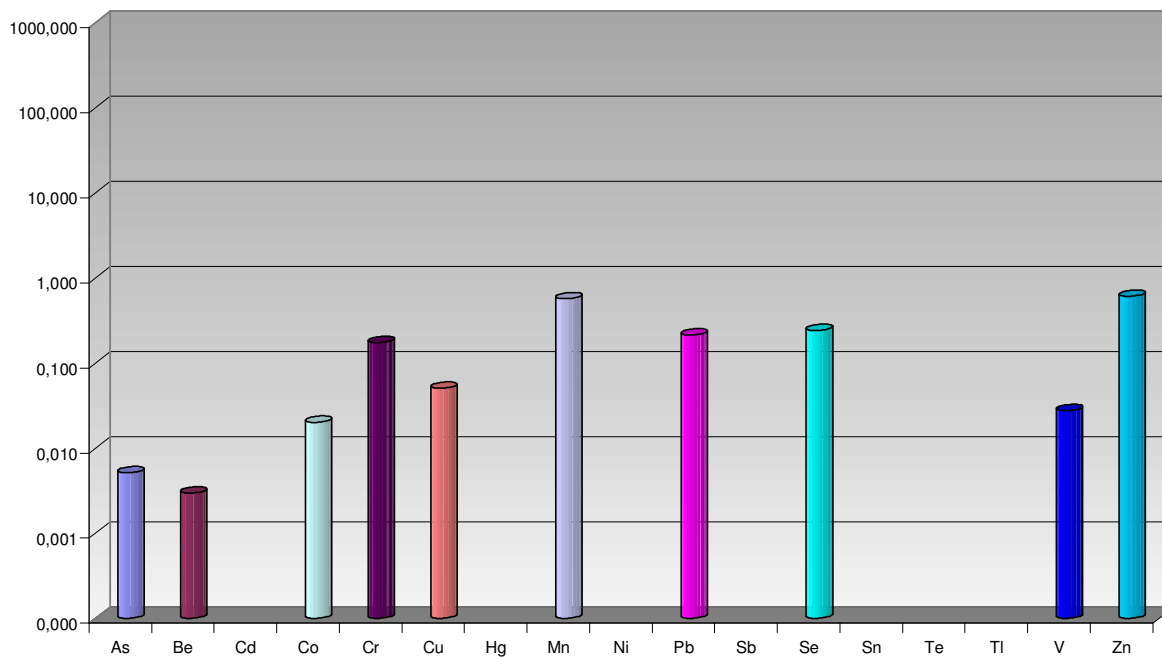
Dalkia Česká republika, a.s. – Divize Karviná – K3



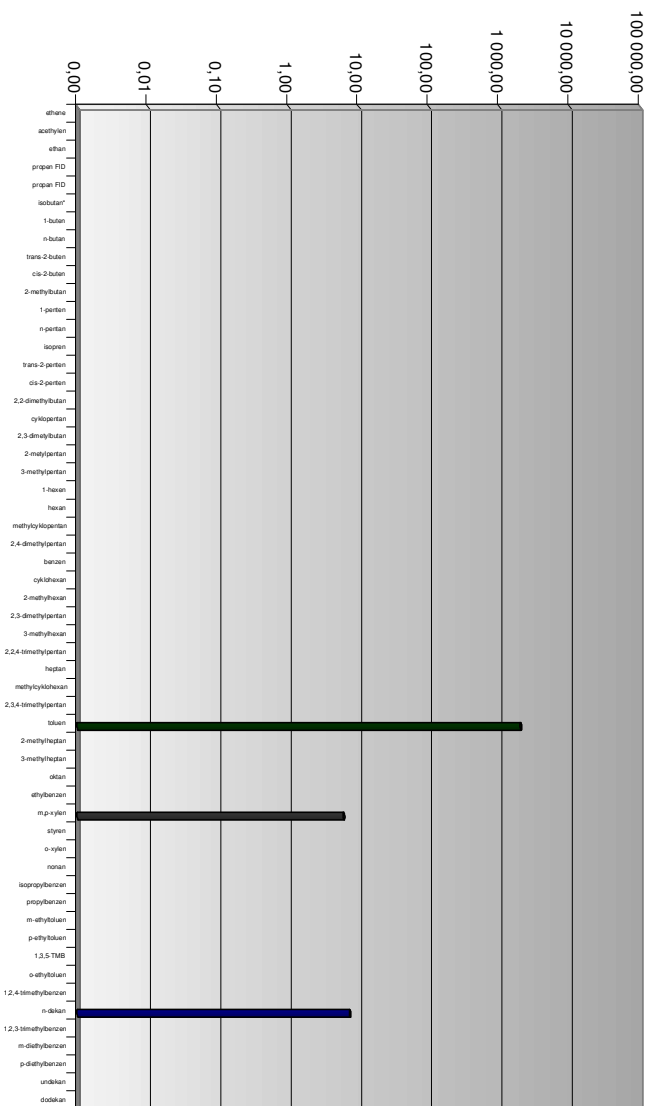
Dalkia Česká republika, a.s. – Divize Karviná – K3 (PAH)



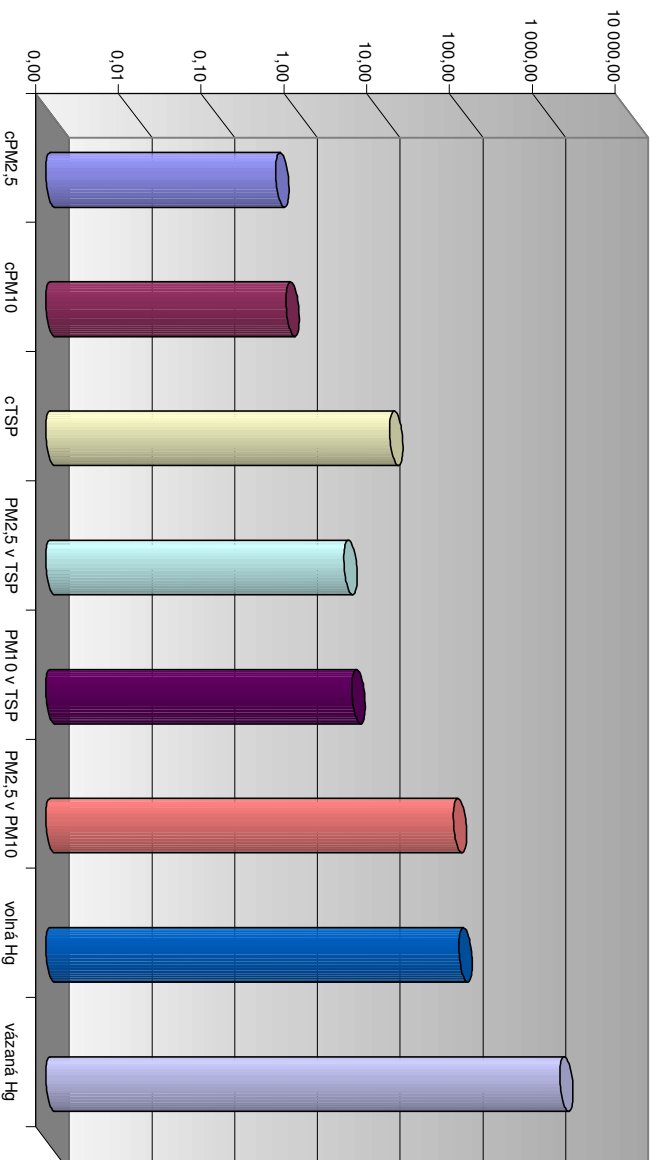
Dalkia Česká republika, a.s. – Divize Karviná – K3 (TK)



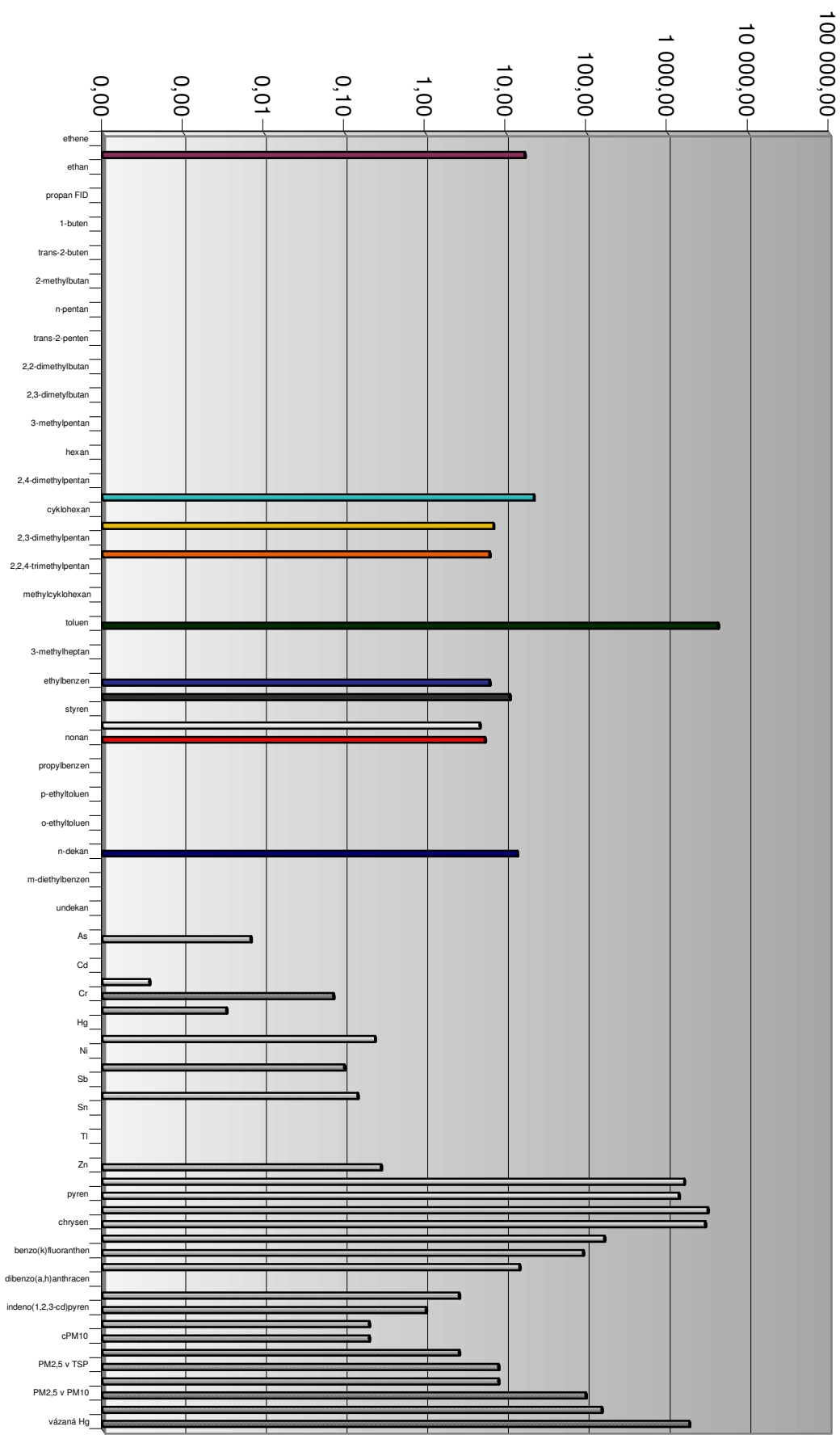
Dalkia Česká republika, a.s. – Divize Karviná – K3 (VOC)



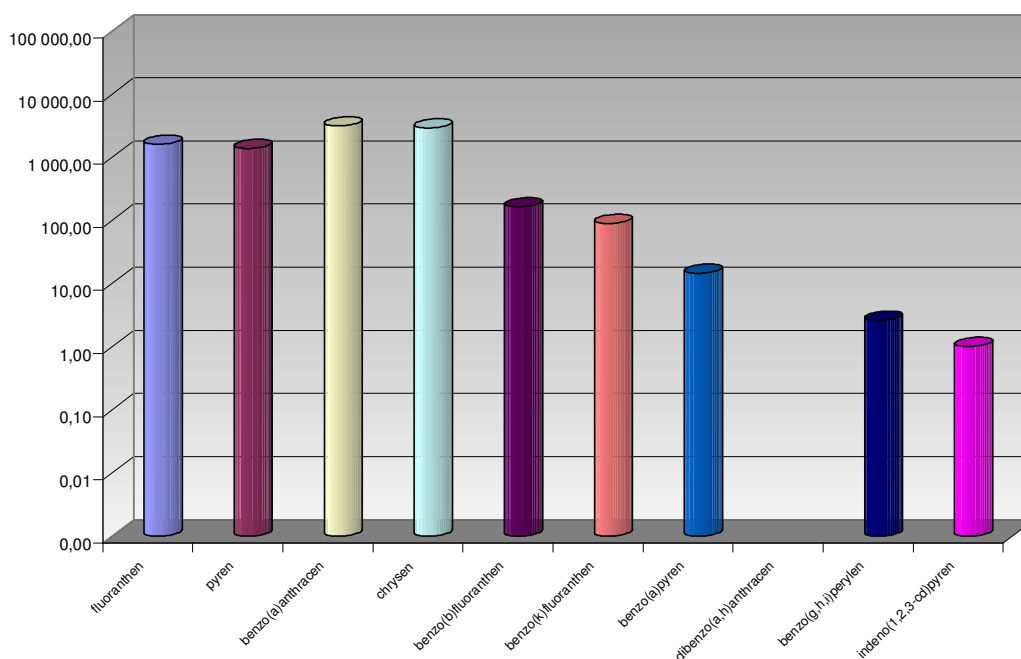
Dalkia Česká republika, a.s. – Divize Karviná – K3 (TZL + Hg)



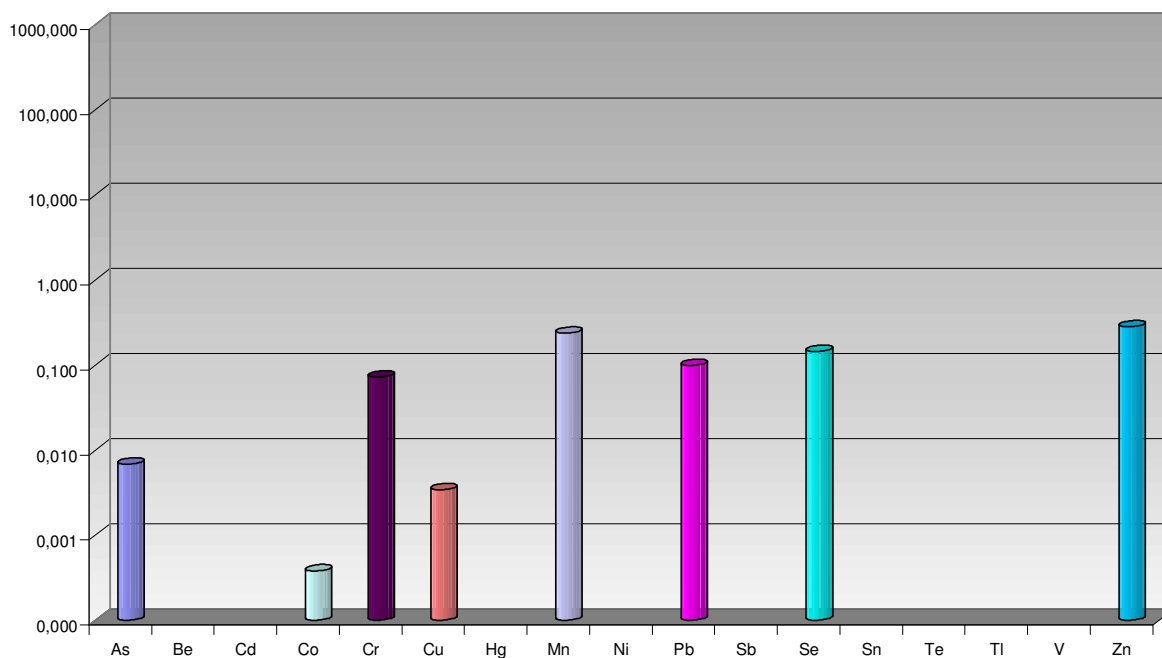
Dalkia Česká republika, a.s. – Divize Karviná – K1



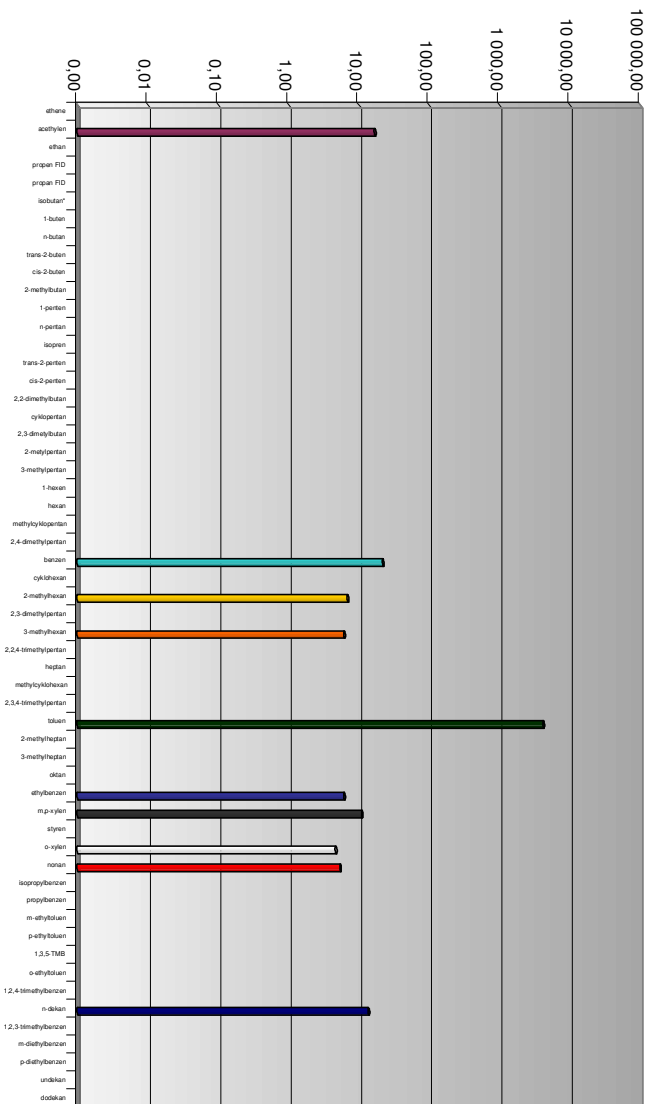
Dalkia Česká republika, a.s. – Divize Karviná – K1 (PAH)



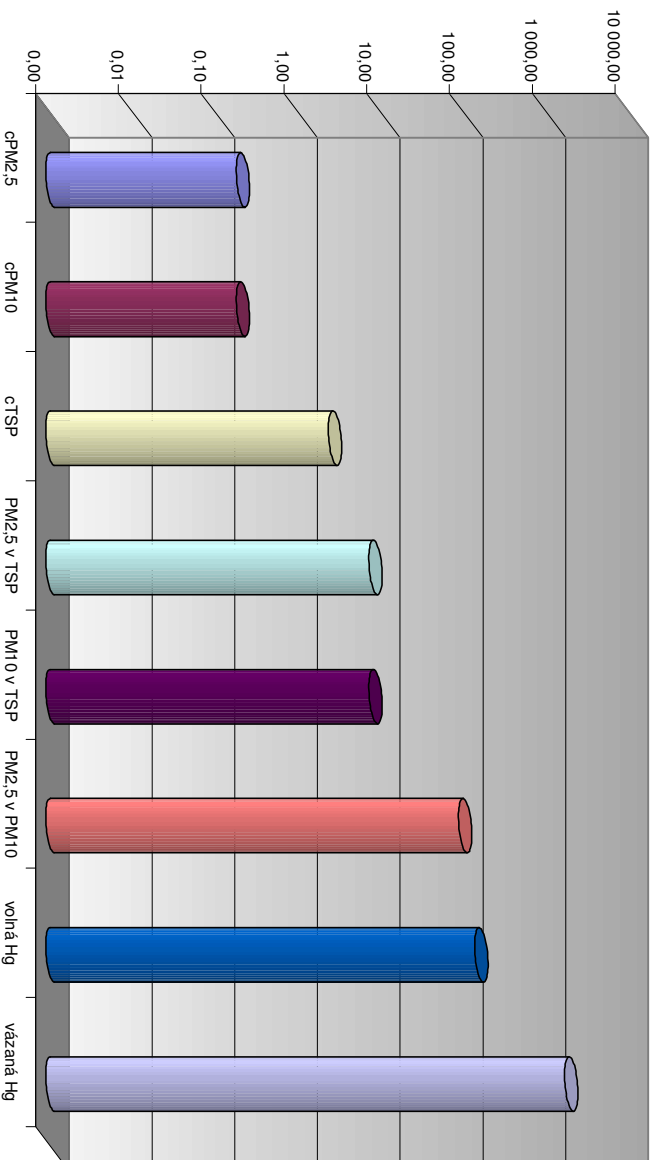
Dalkia Česká republika, a.s. – Divize Karviná – K1 (TK)



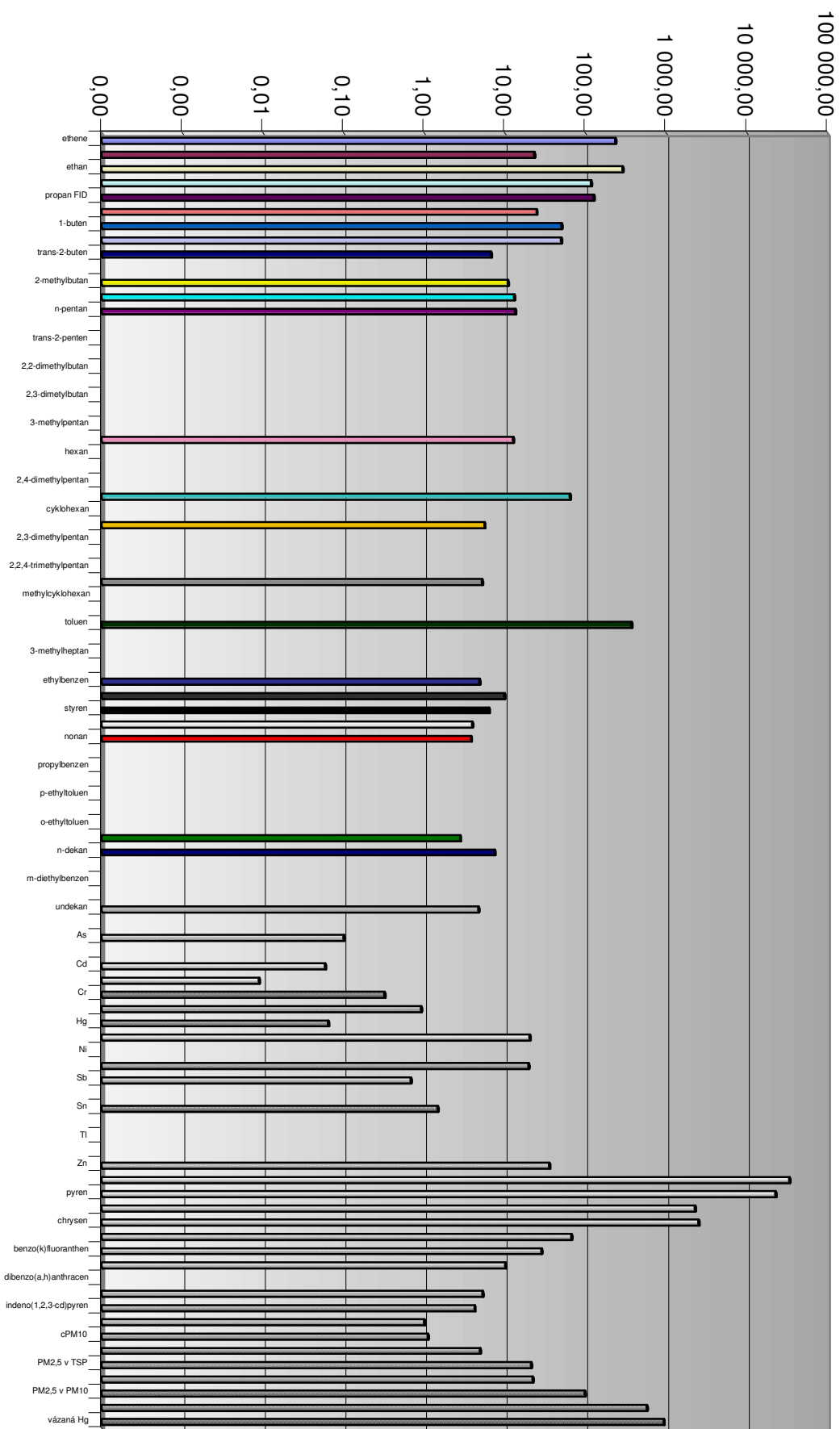
Dalkia Česká republika, a.s. – Divize Karviná – K1 (VOC)



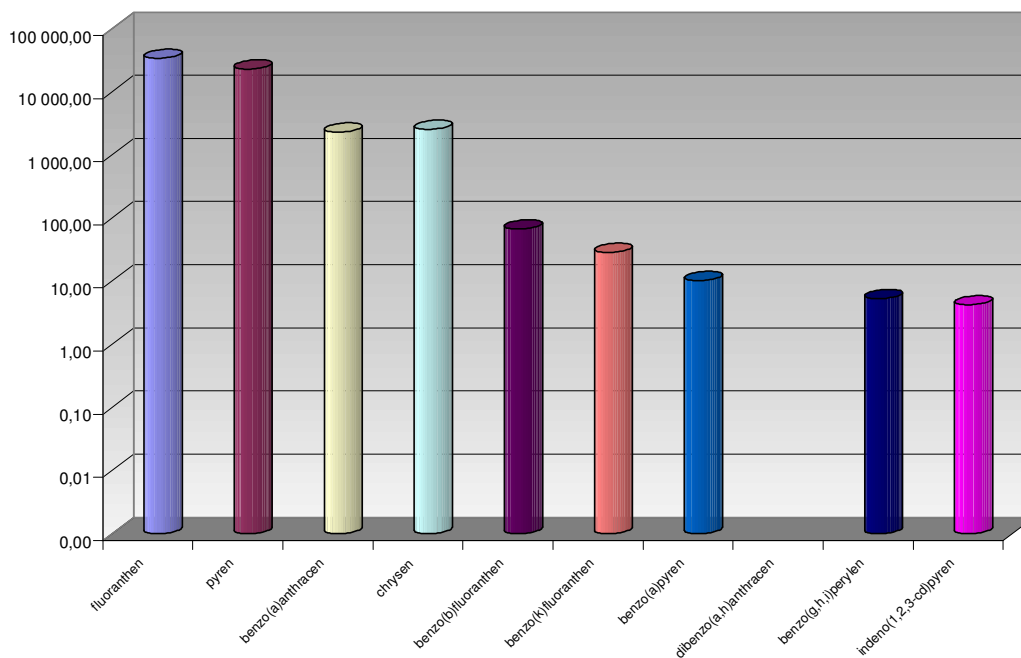
Dalkia Česká republika, a.s. – Divize Karviná – K1 (TZL + Hg)



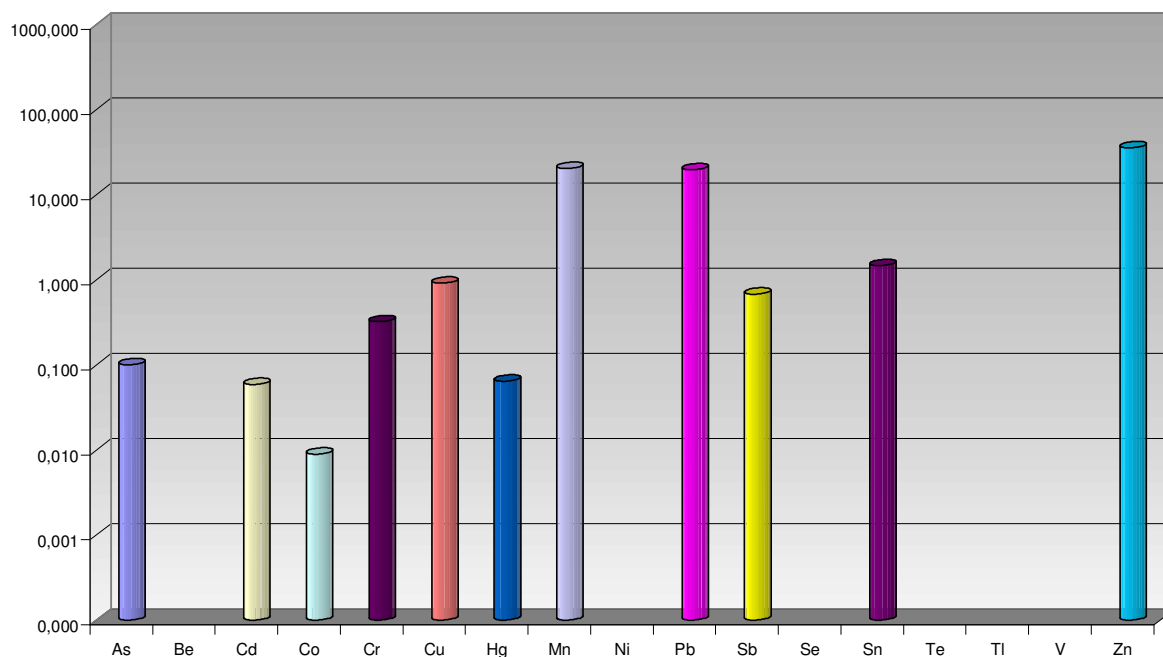
ŽDB,a.s. Bohumín - kupařovna



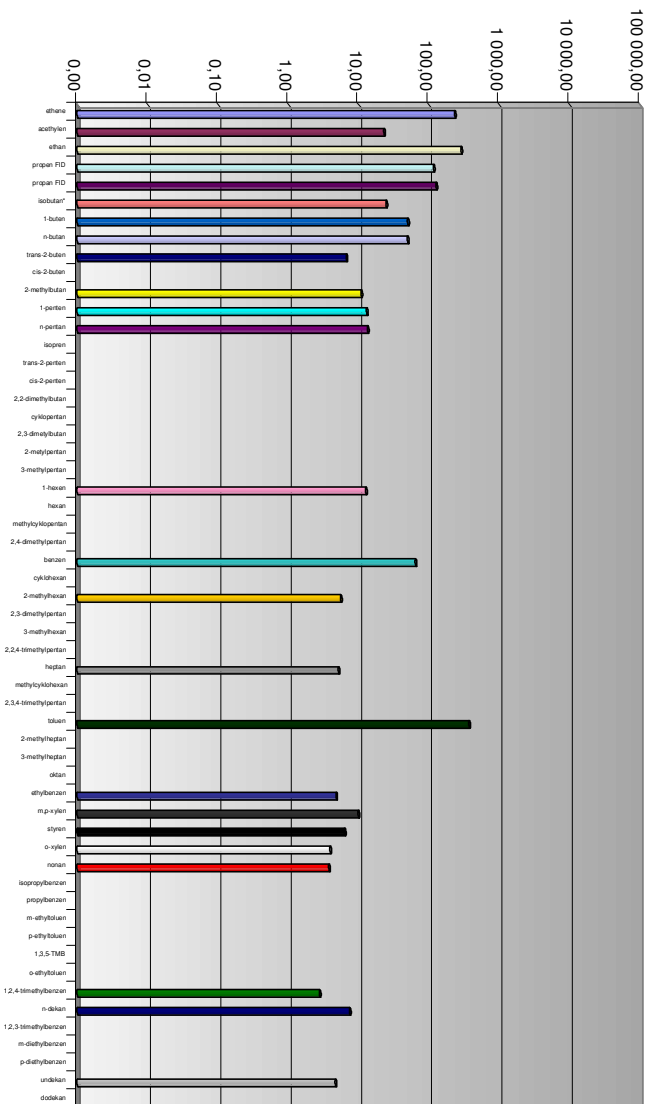
ŽDB,a.s. Bohumín - kuplovna (PAH)



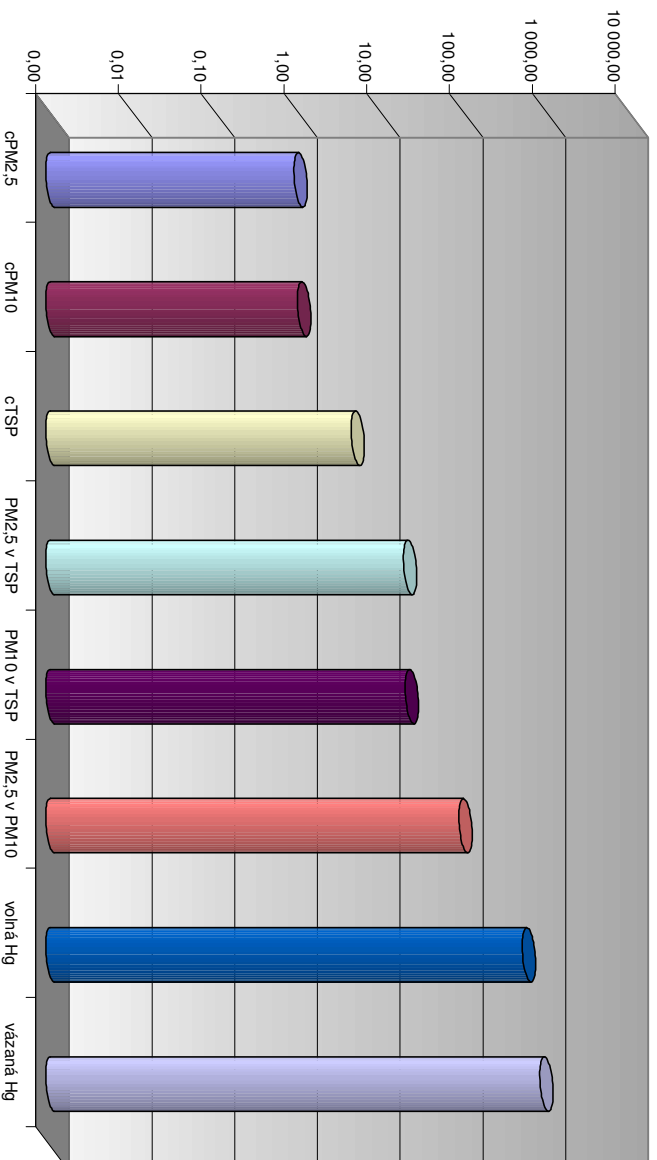
ŽDB,a.s. Bohumín - kuplovna (TK)



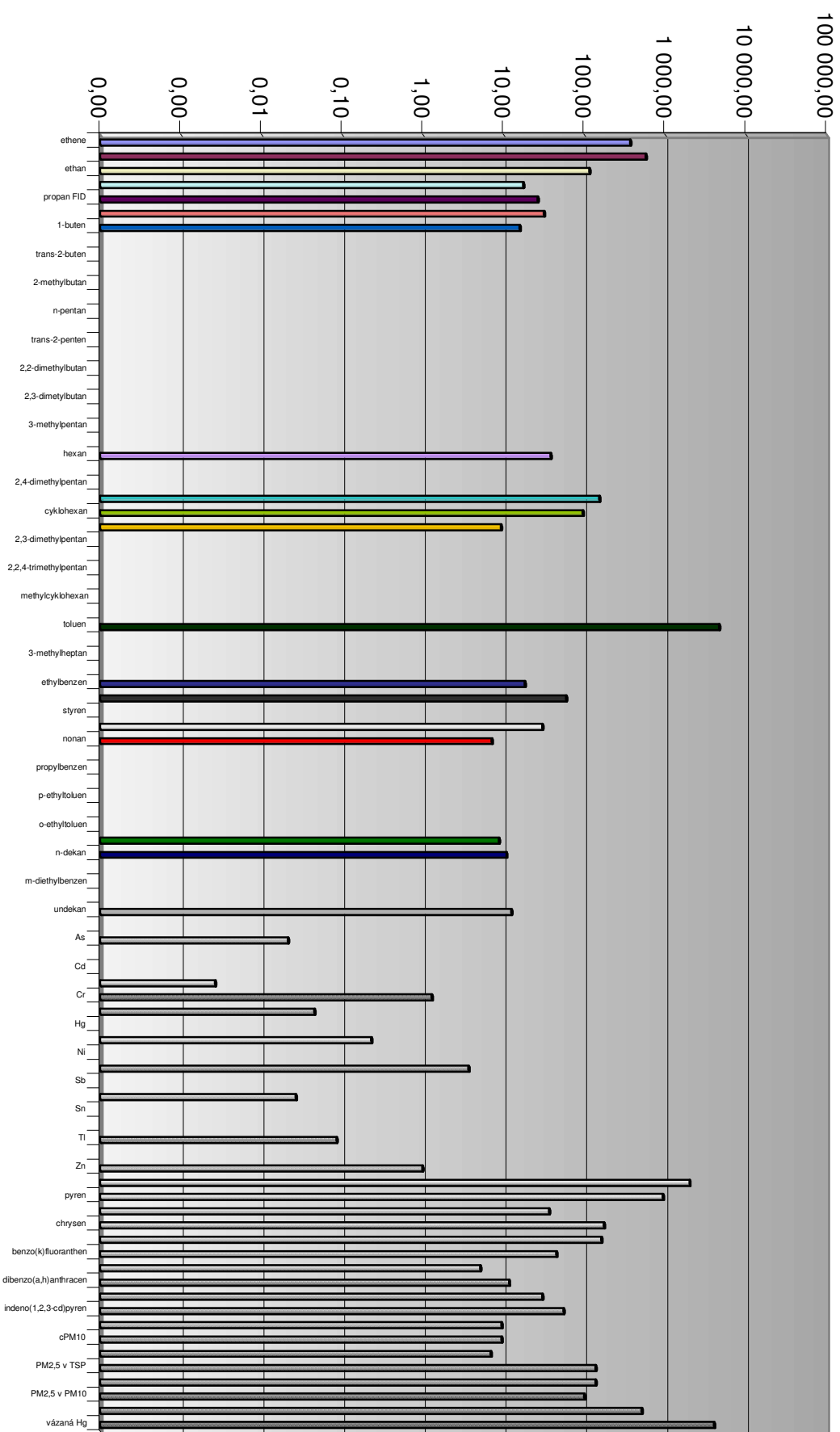
ŽDB,a.s. Bohumín - kupařovna (VOC)



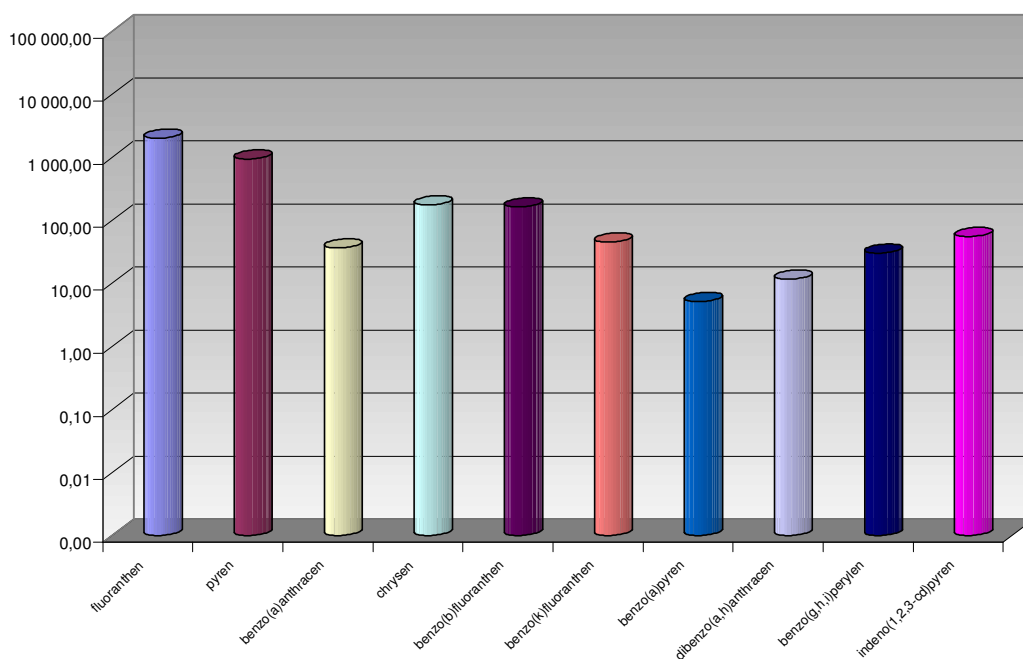
ŽDB,a.s. Bohumín - kupařovna (TZL + Hg)



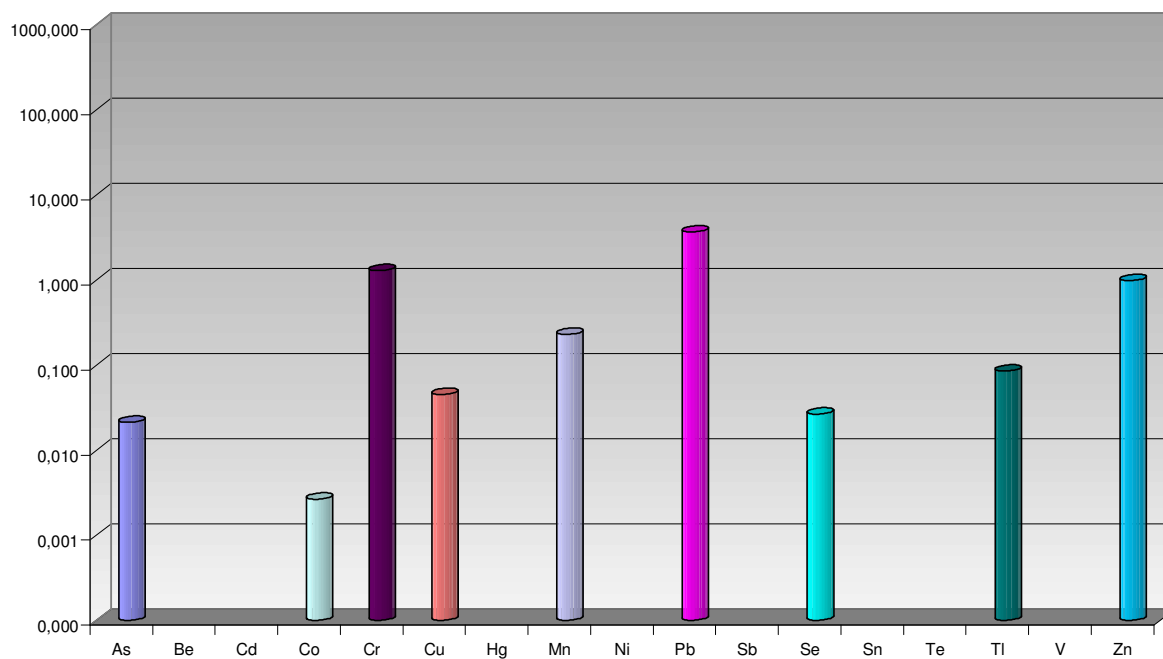
OKD, koksovna Jan Šverma – KB3



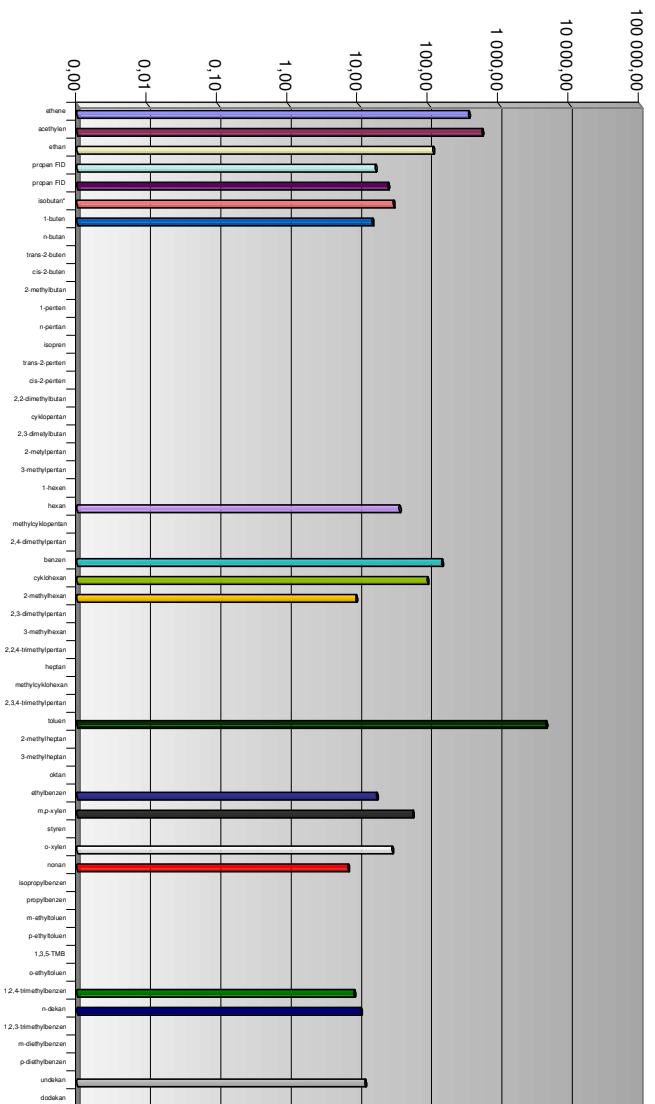
OKD, koksovna Jan Šverma – KB3 (PAH)



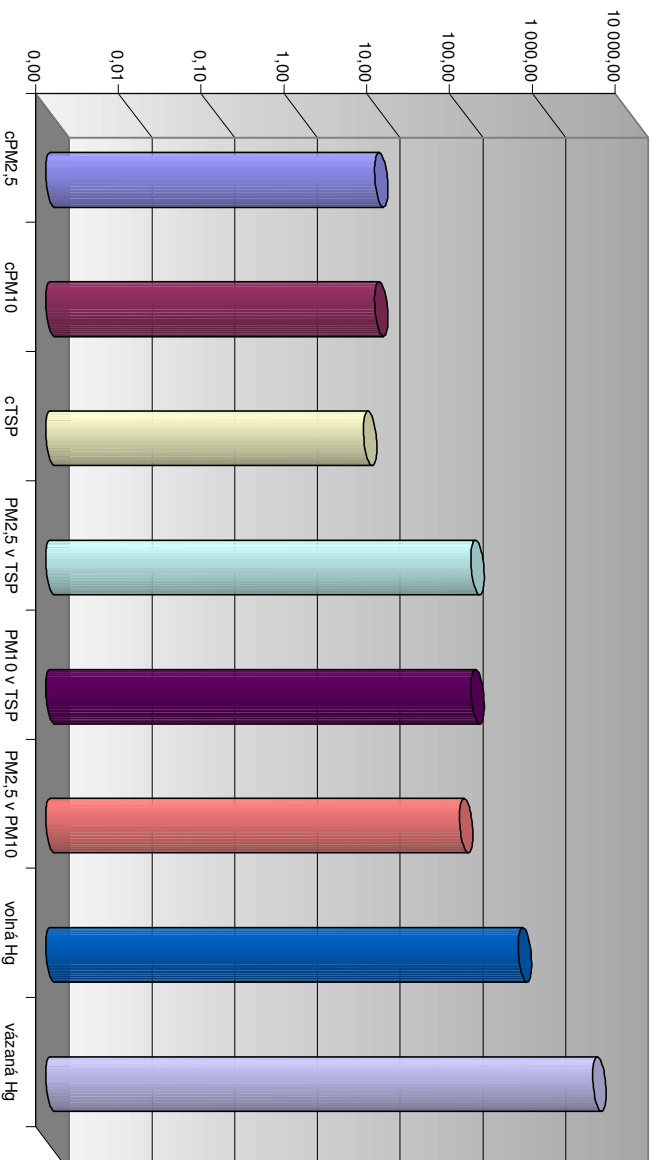
OKD, koksovna Jan Šverma – KB3 (TK)



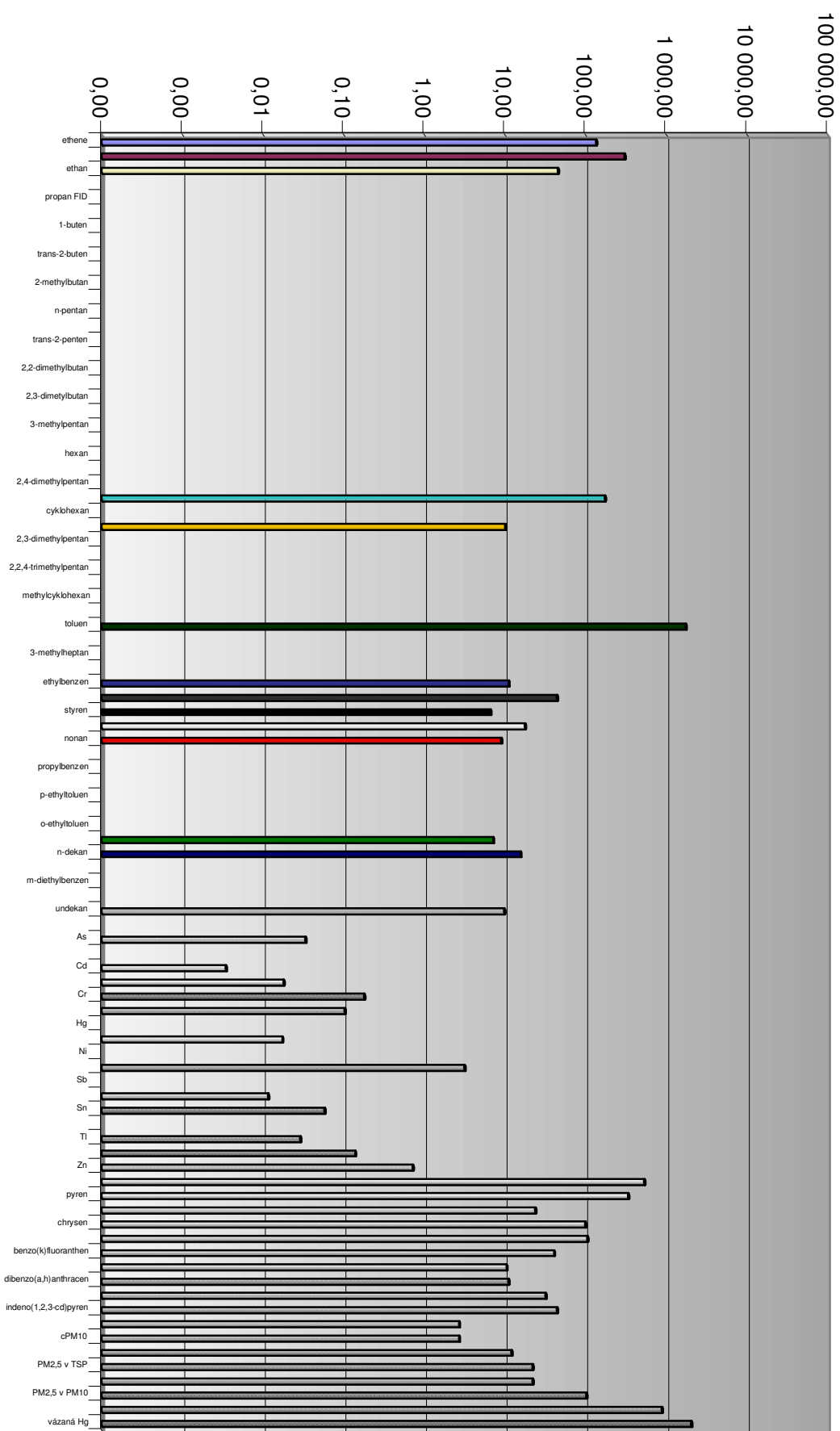
OKD, koksovna Jan Šverma – KB3 (VOC)



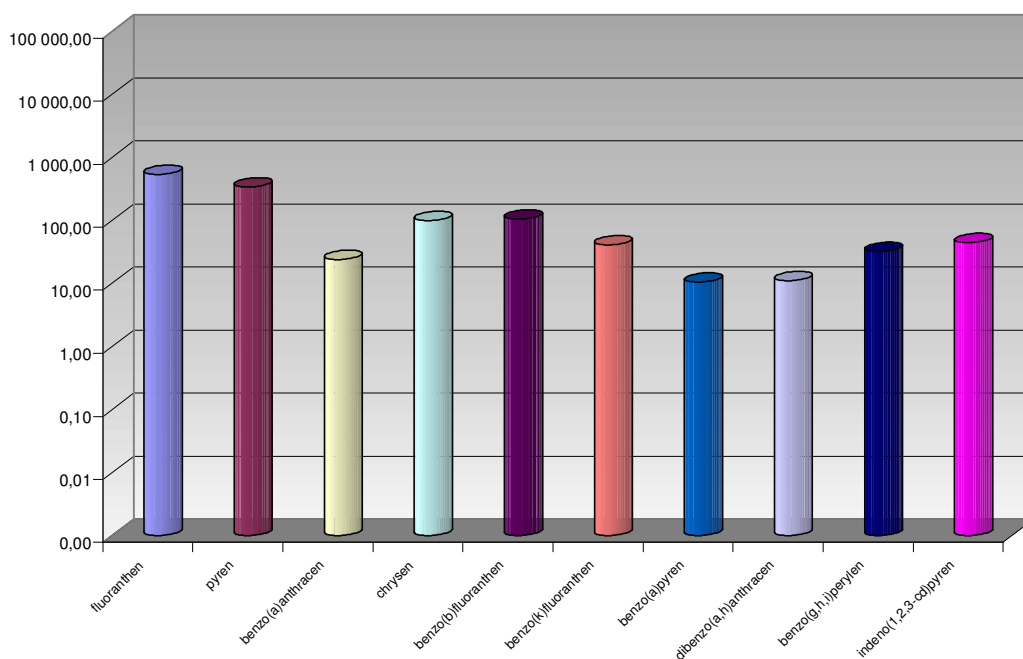
OKD, koksovna Jan Šverma – KB3 (TZL + Hg)



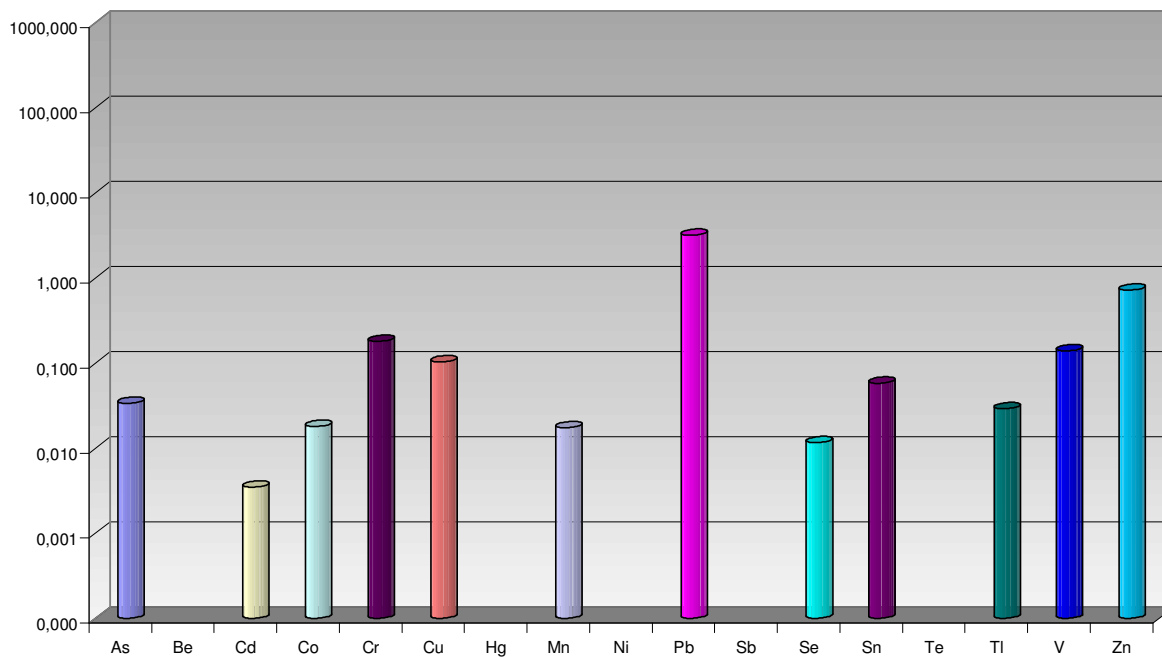
OKD, koksovna Jan Šverma – KB4



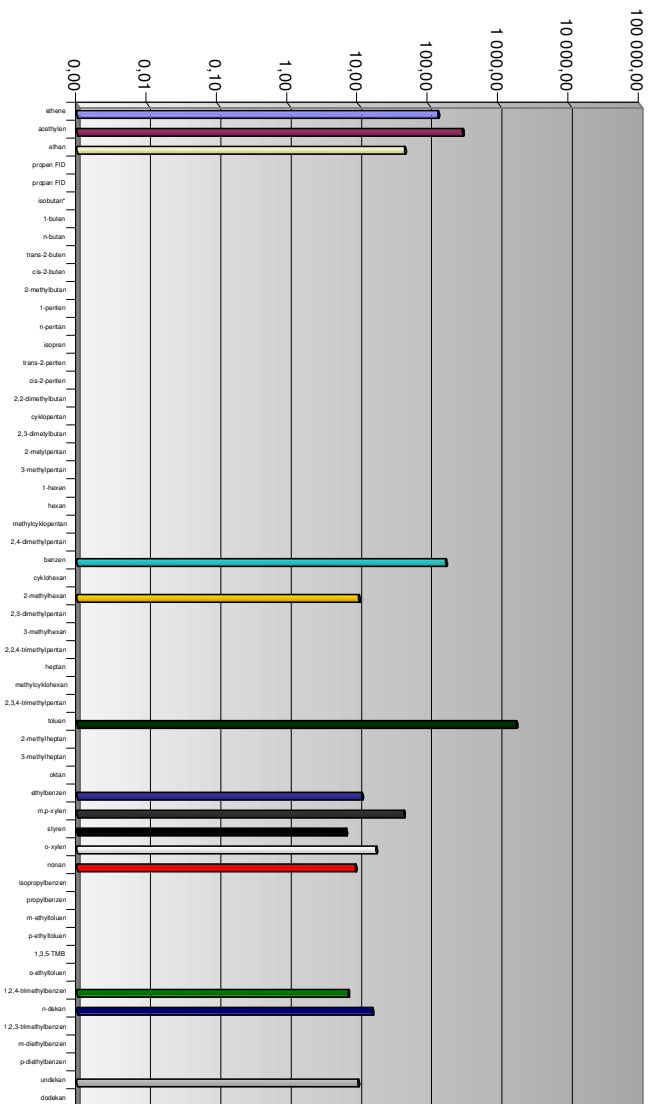
OKD, koksovna Jan Šverma – KB4 (PAH)



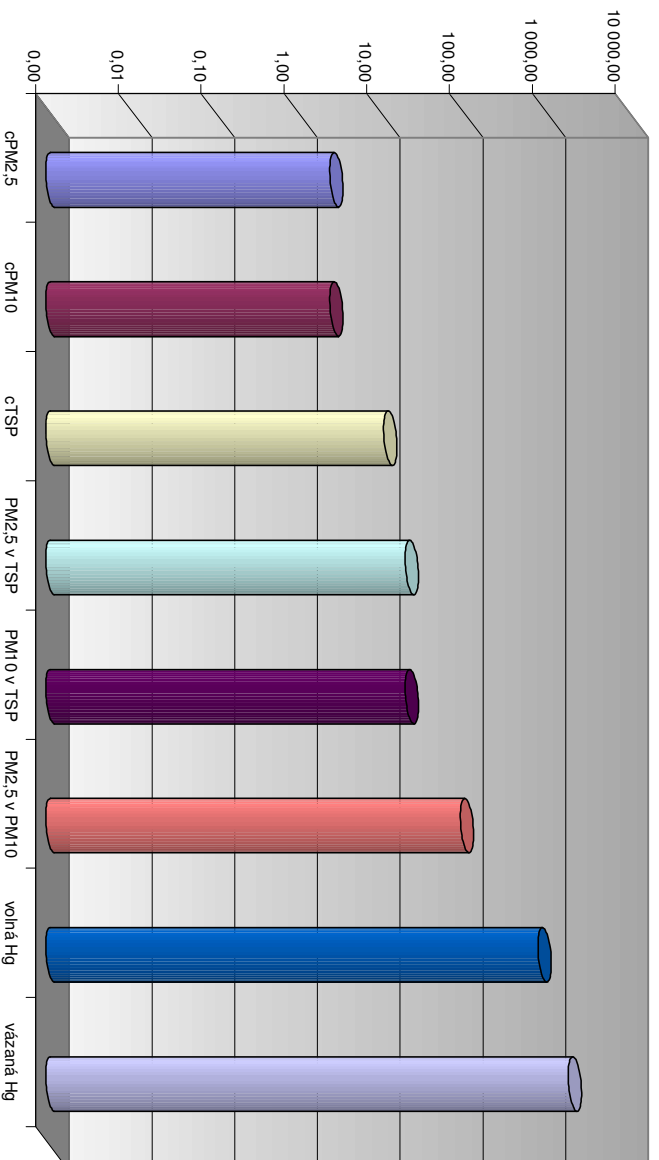
OKD, koksovna Jan Šverma – KB4 (TK)



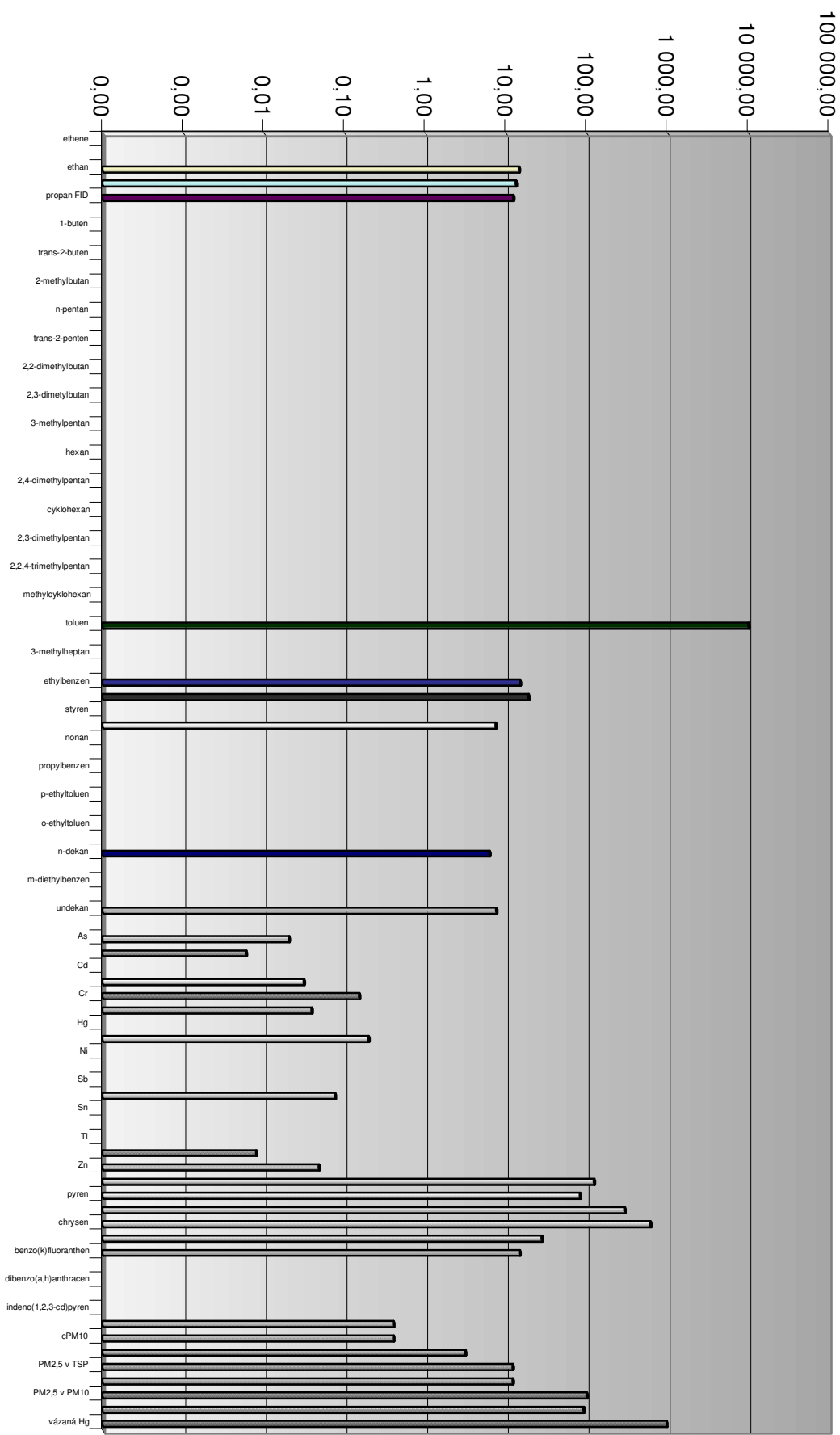
OKD, koksovna Jan Šverma – KB4 (VOC)



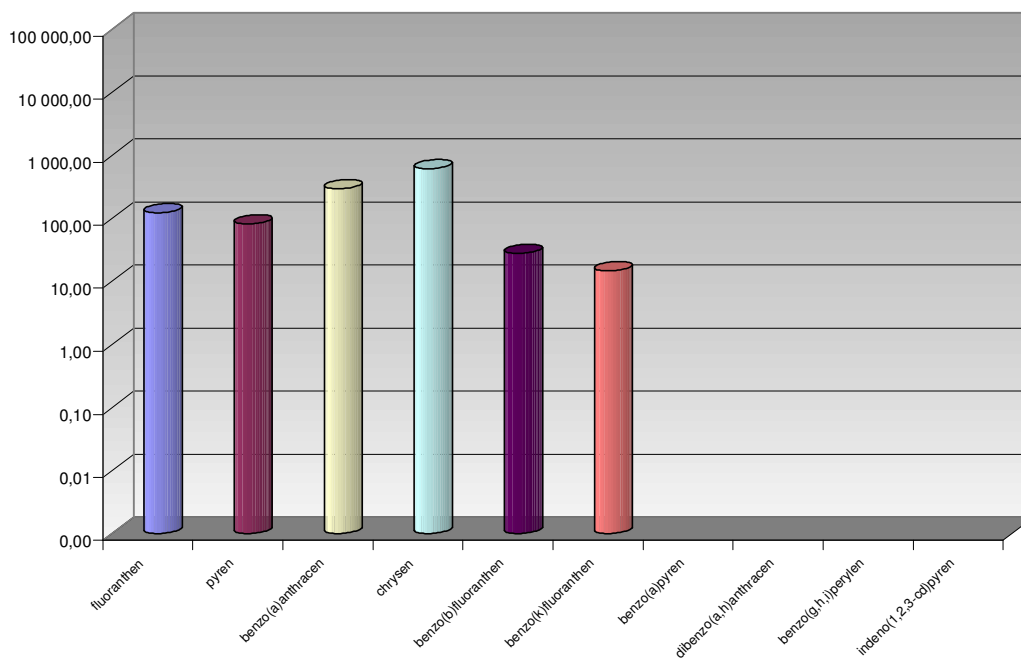
OKD, koksovna Jan Šverma – KB4 (TZL + Hg)



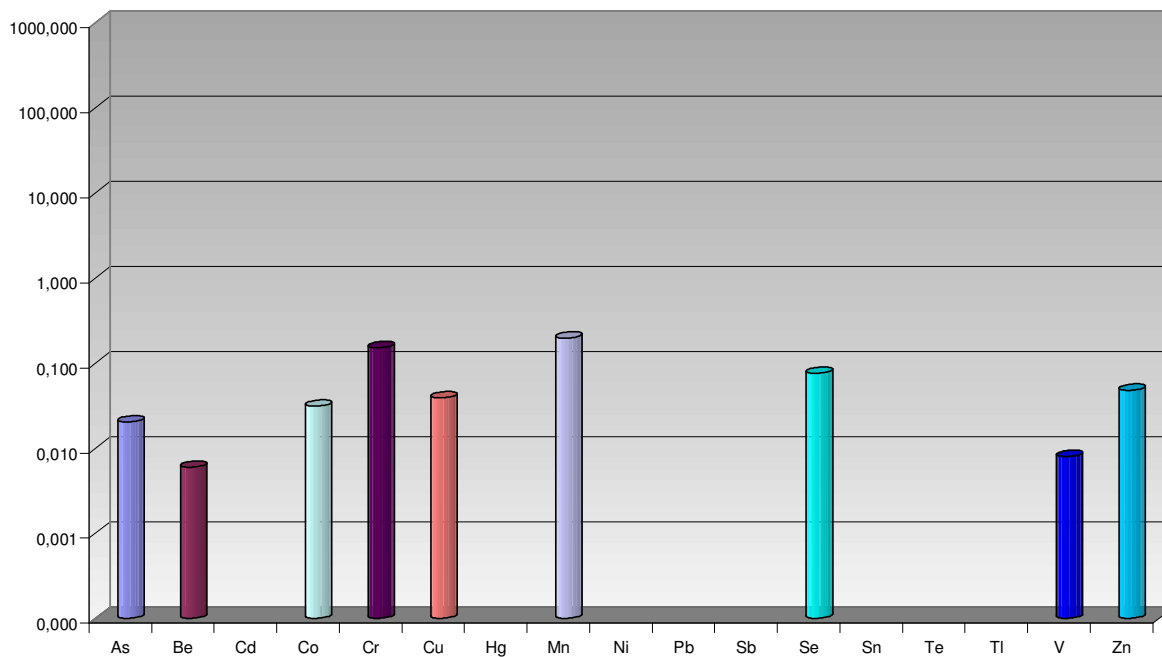
Teplárna E3, Energetika Trinec, a.s. - K11



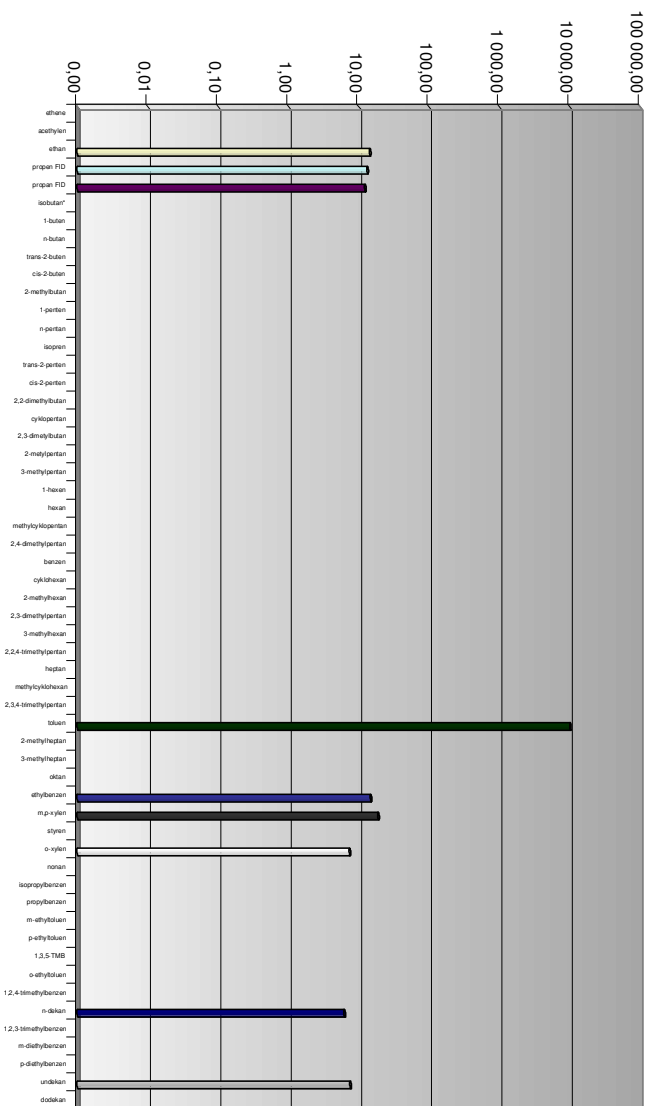
Teplárna E3, Energetika Třinec, a.s. - K11 (PAH)



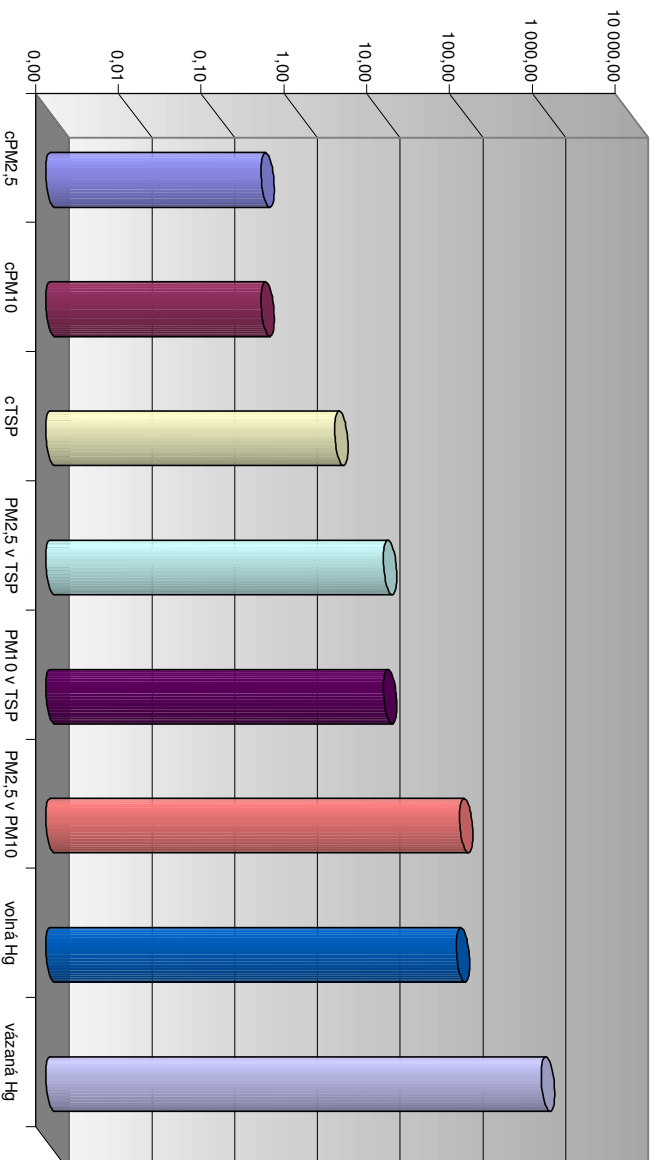
Teplárna E3, Energetika Třinec, a.s. - K11 (TK)



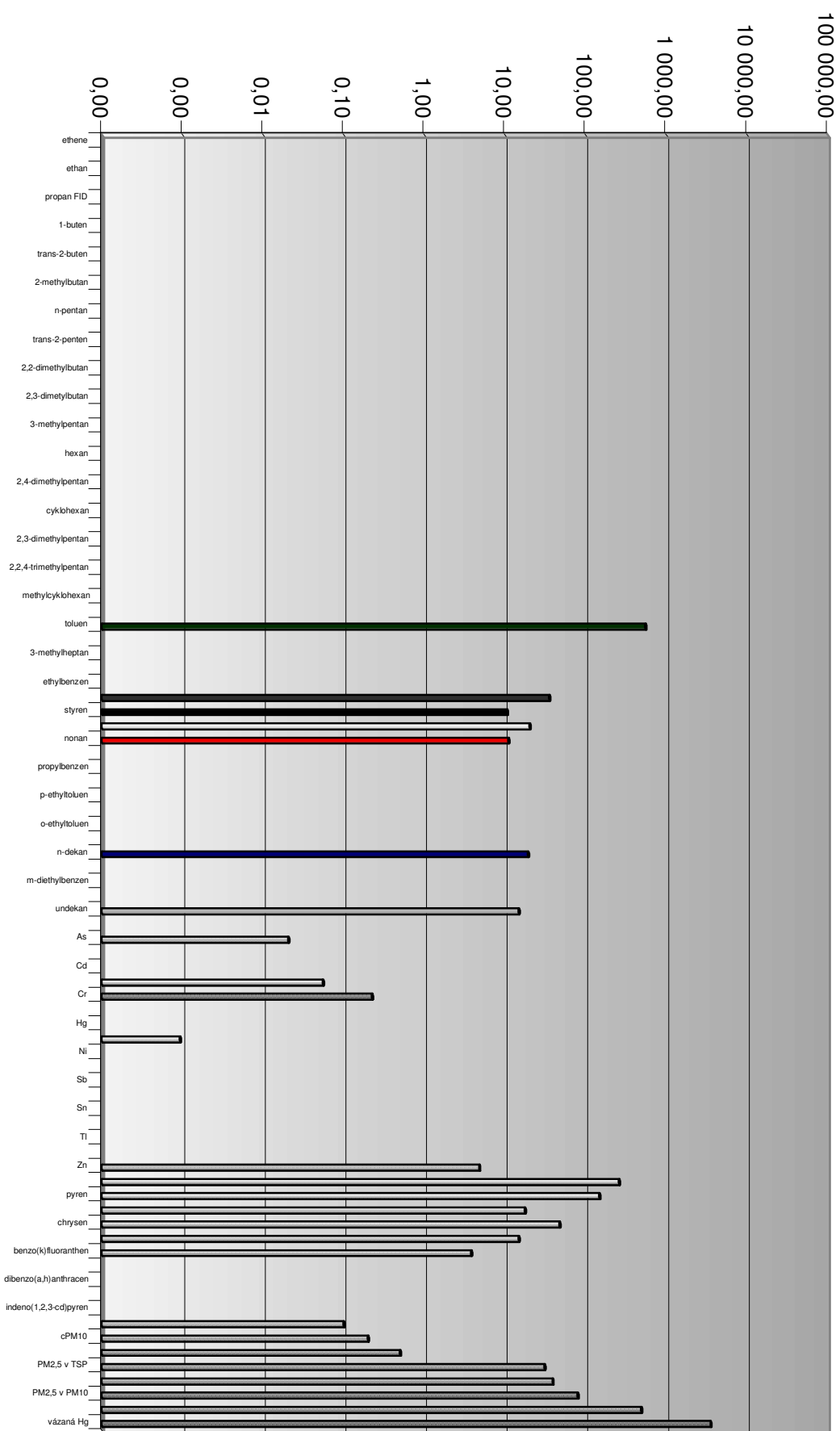
Teplárna E3, Energetika Trinec, a.s. - K11 (VOC)



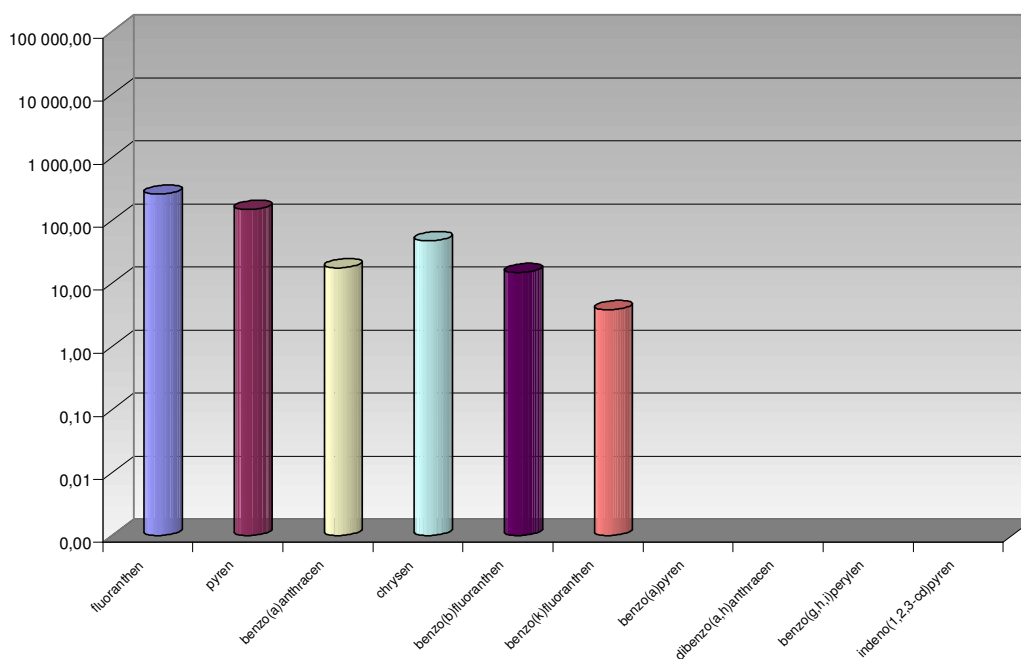
Teplárna E3, Energetika Trinec, a.s. - K11 (TZL + Hg)



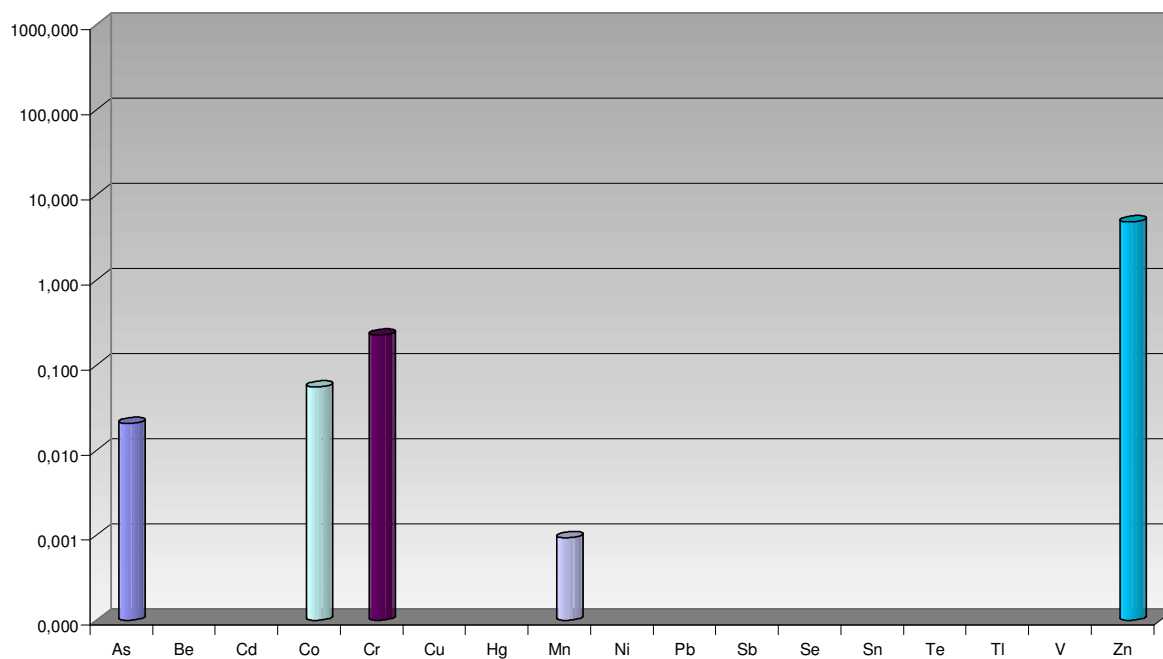
Teplárna E3, Energetika Trinec, a.s. - K12



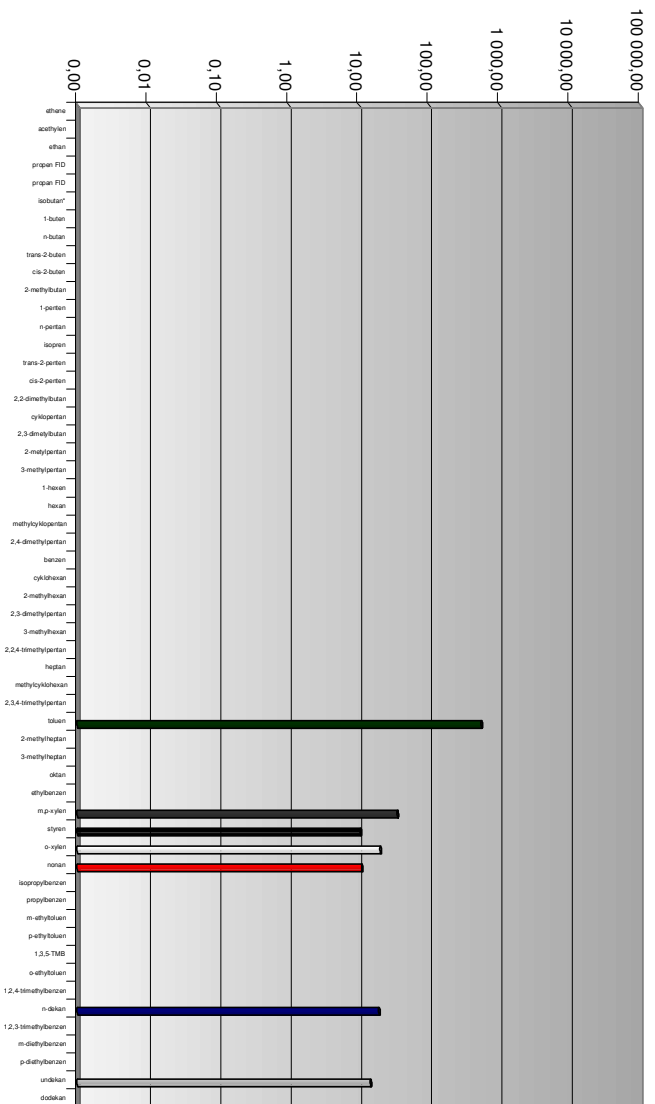
Teplárna E3, Energetika Třinec, a.s. - K12 (PAH)



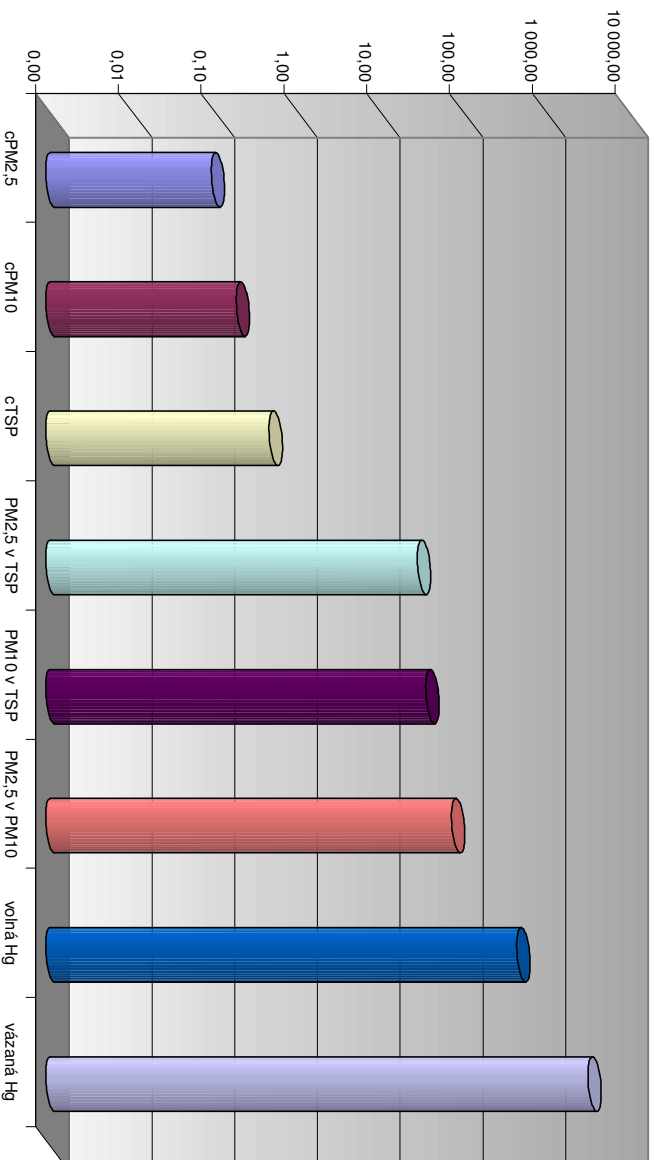
Teplárna E3, Energetika Třinec, a.s. - K12 (TK)



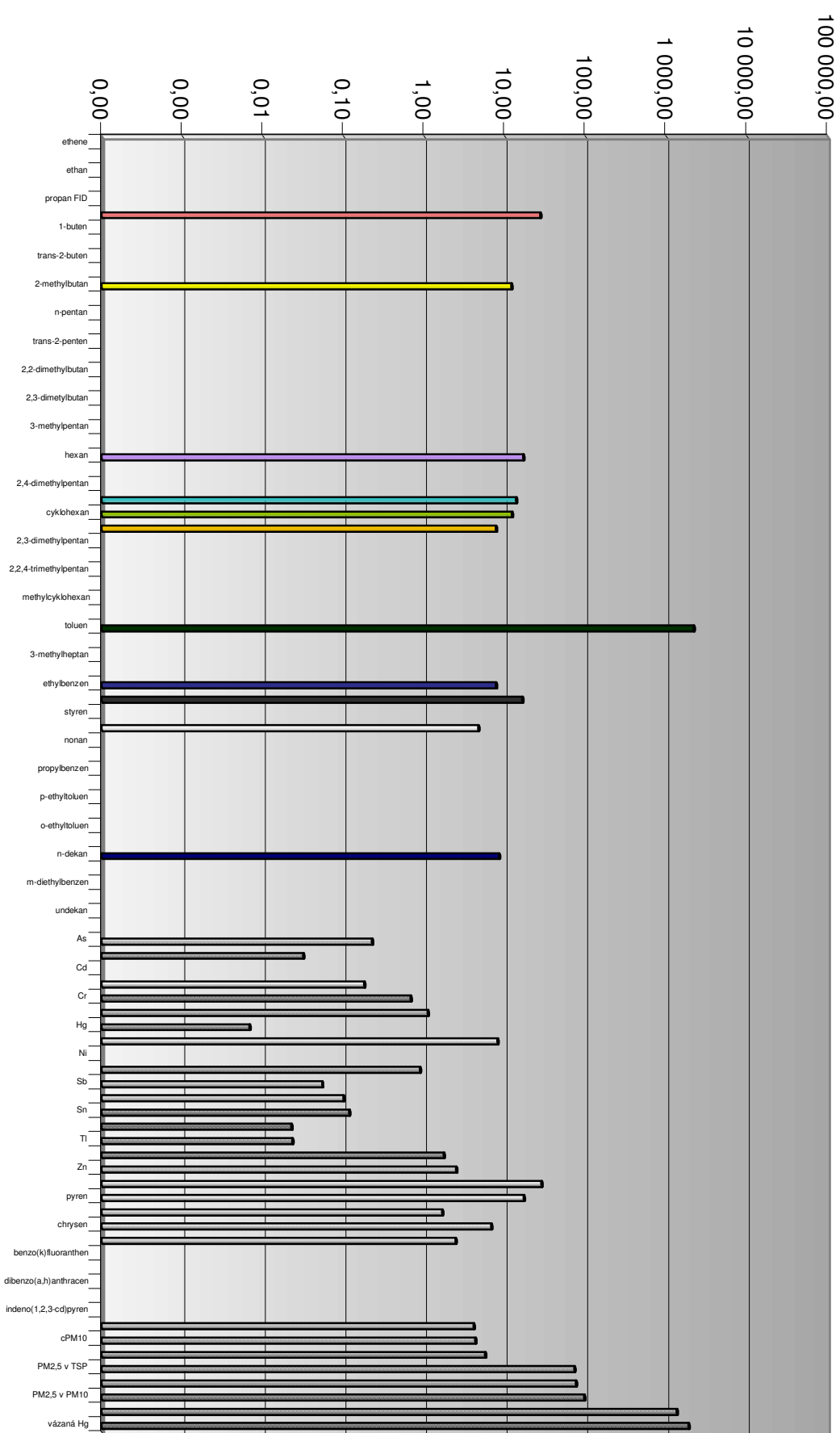
Teplárna E3, Energetika Trinec, a.s. - K12 (VOC)



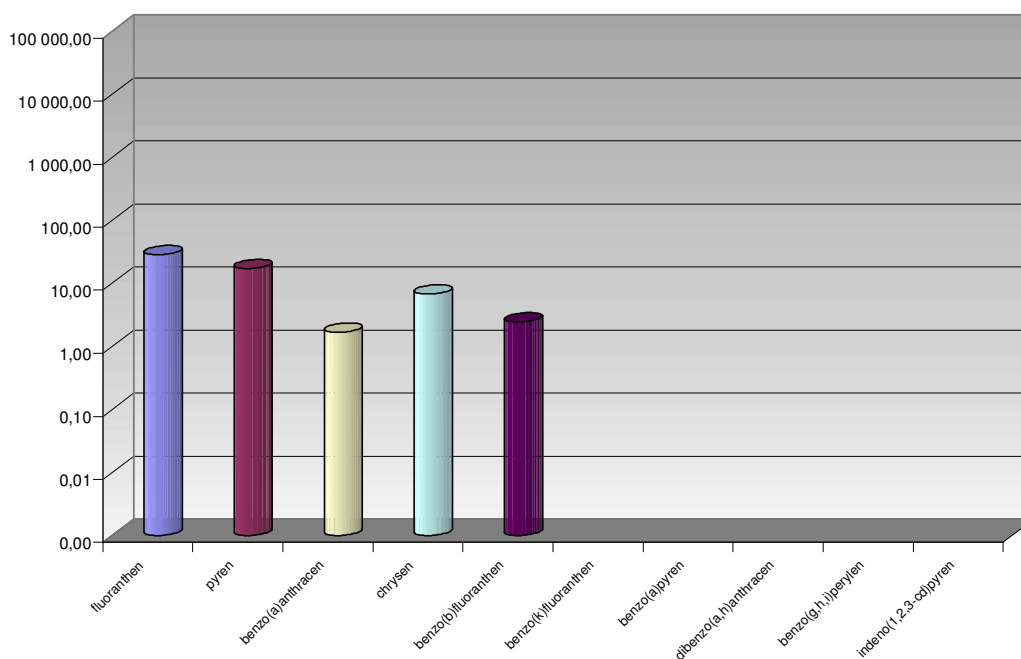
Teplárna E3, Energetika Trinec, a.s. - K12 (TZL + Hg)



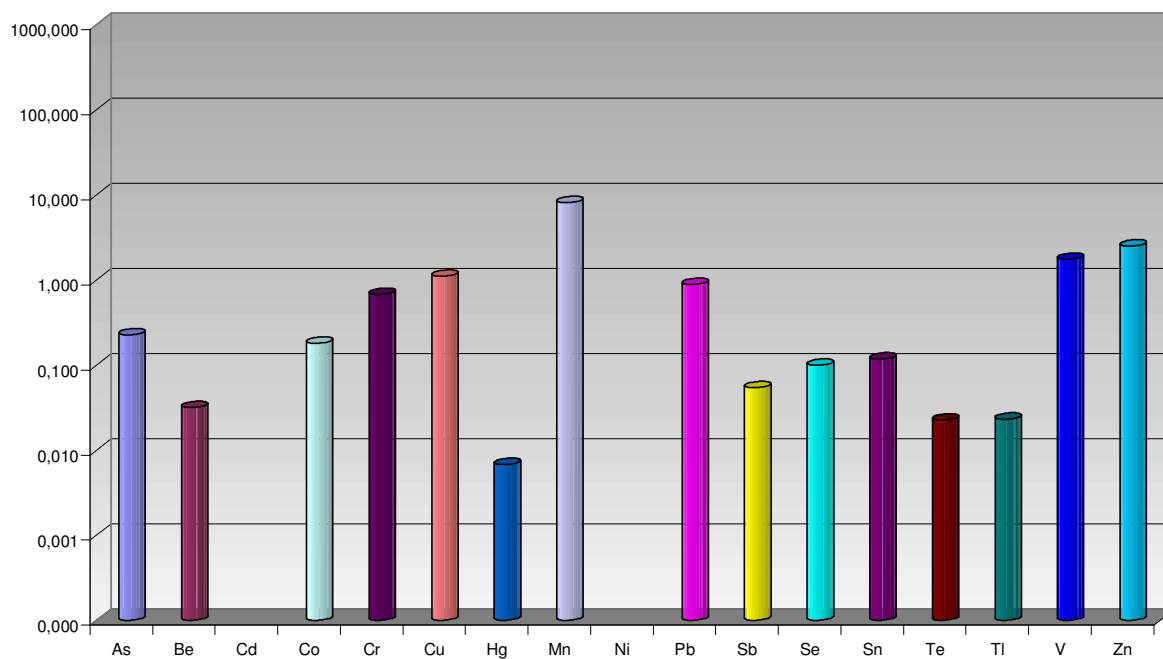
Teplárna E3, Energetika Trinec, a.s. - K14



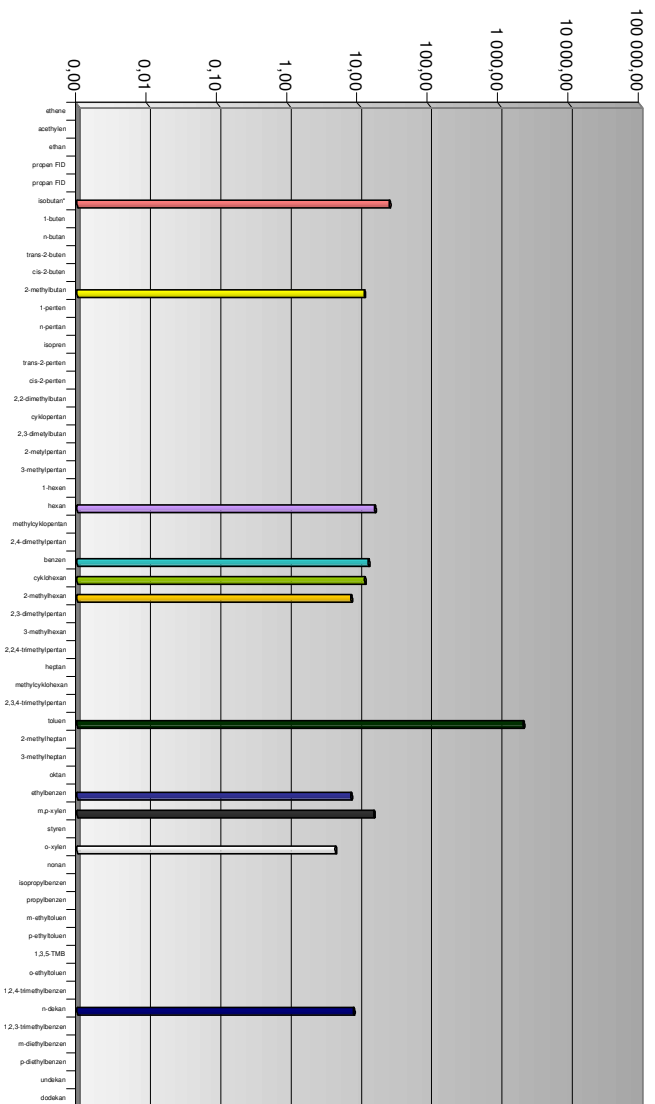
Teplárna E3, Energetika Trinec, a.s. - K14 (PAH)



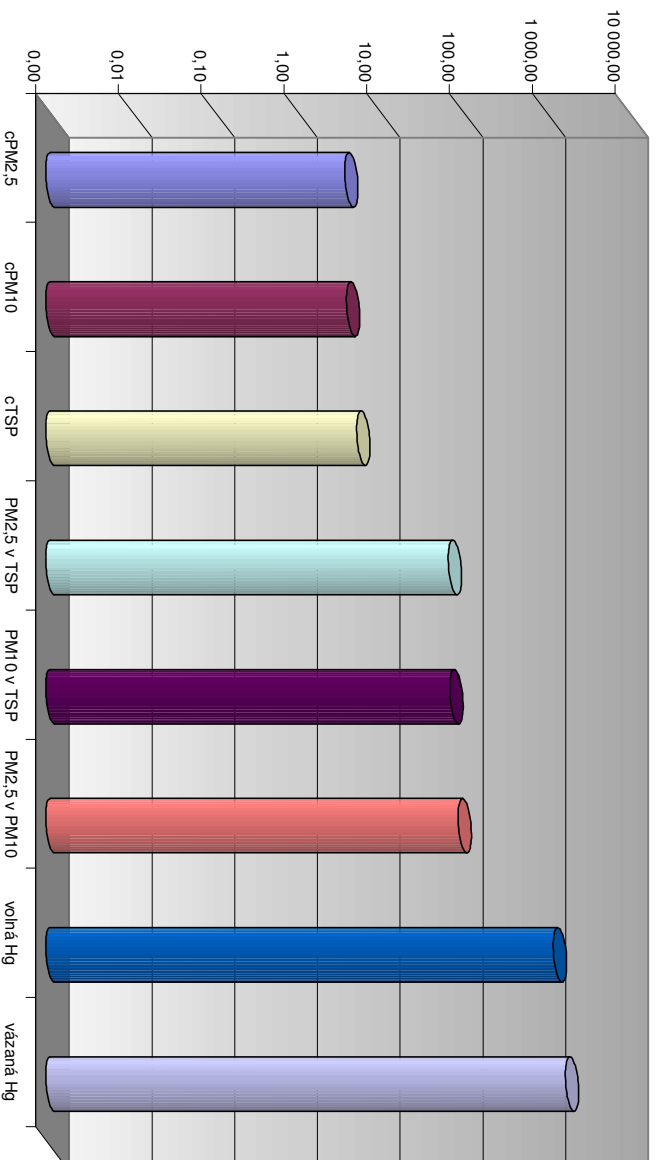
Teplárna E3, Energetika Trinec, a.s. - K14 (TK)



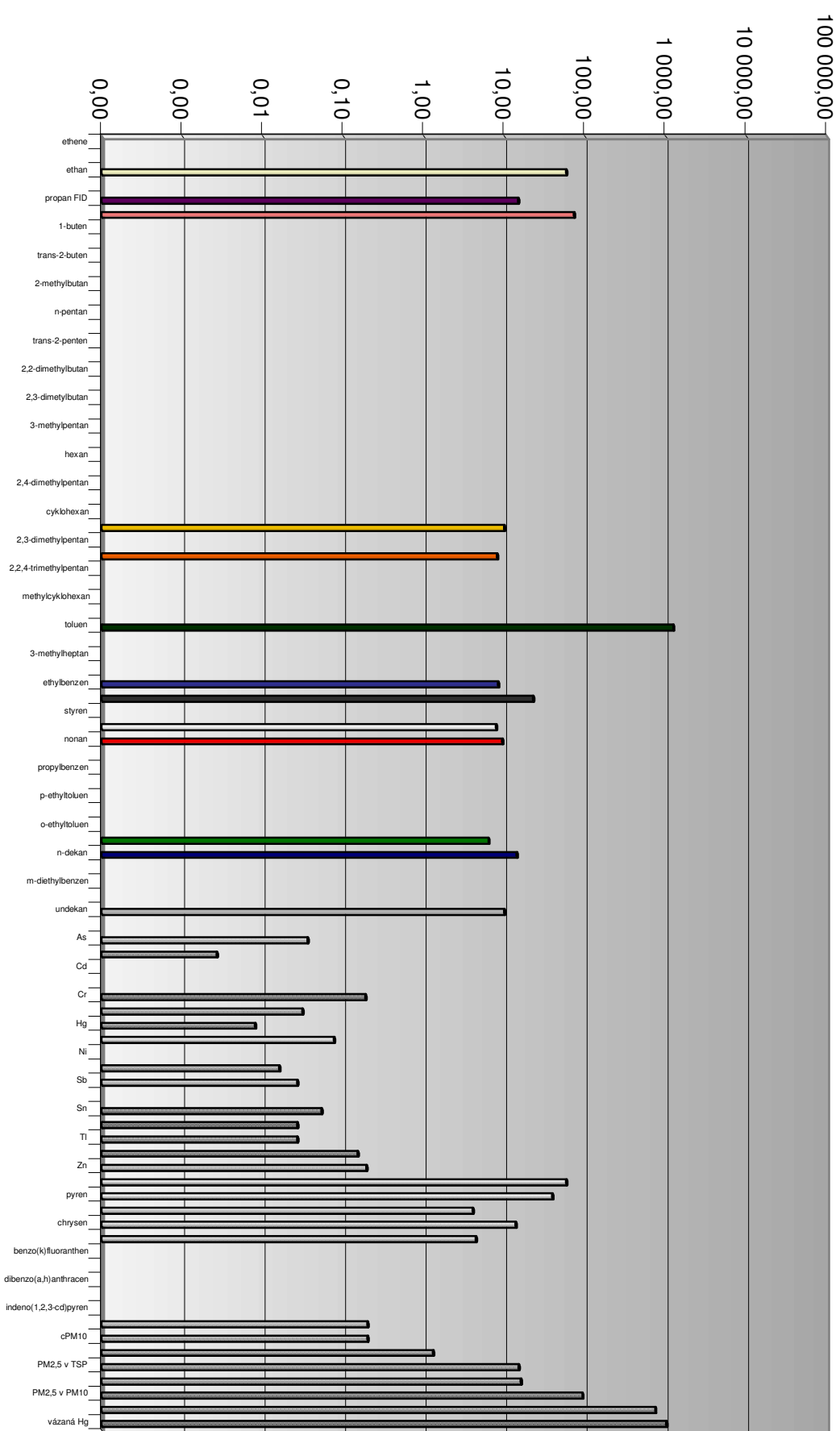
Teplárna E3, Energetika Trinec, a.s. - K14 (VOC)



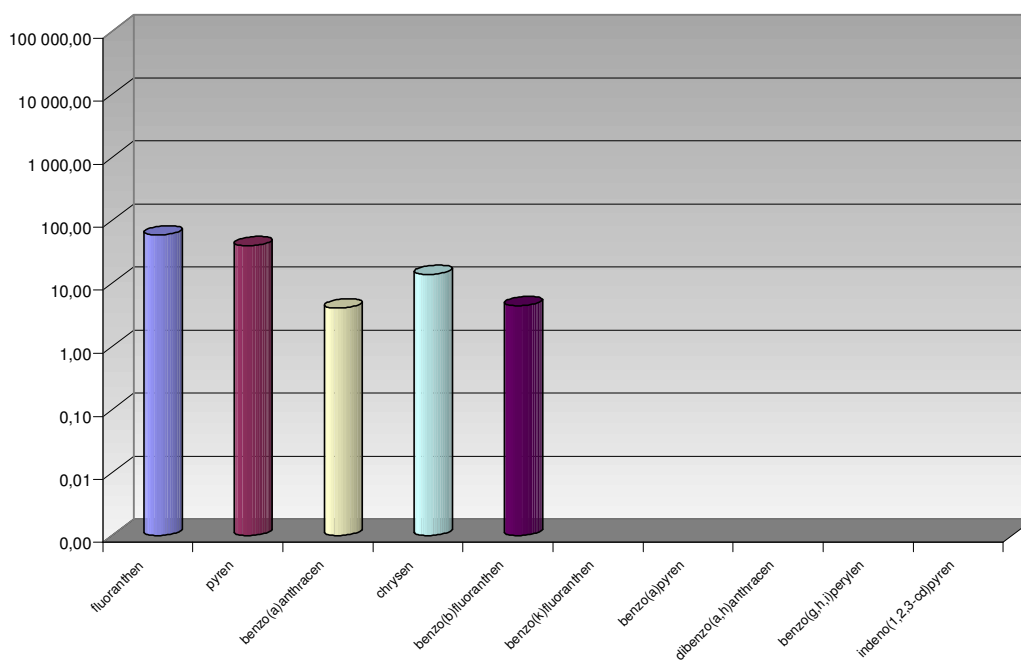
Teplárna E3, Energetika Trinec, a.s. - K14 (TZL + Hg)



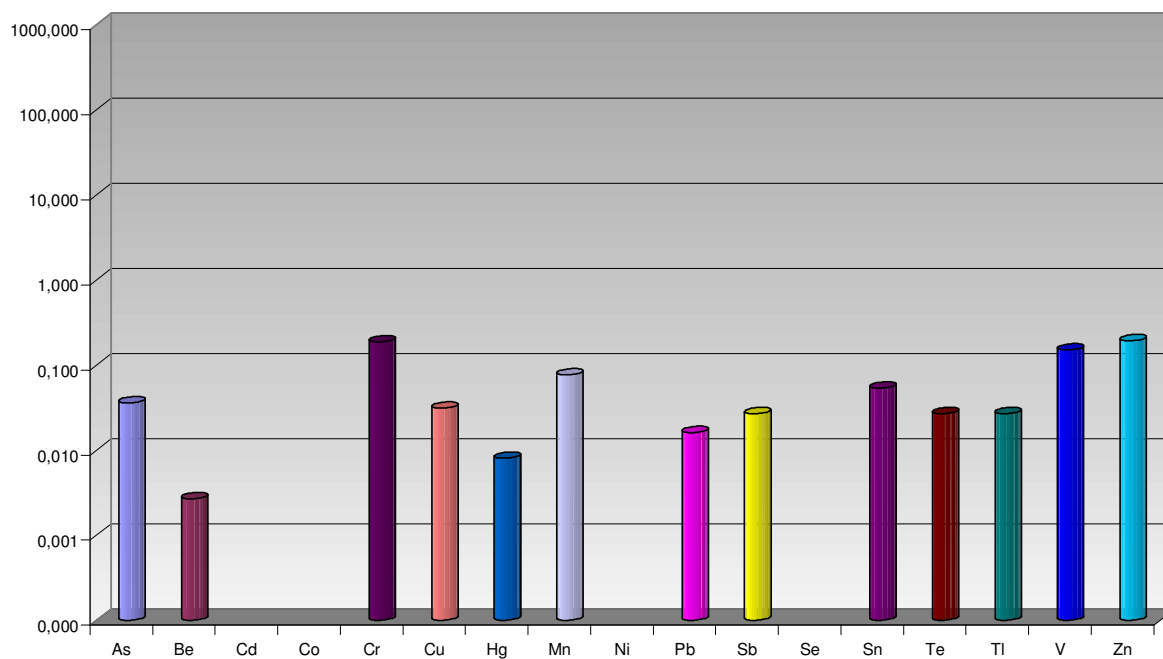
Teplárna E2, Energetika Trinec, a.s. – K3 + K4 (komín 2)



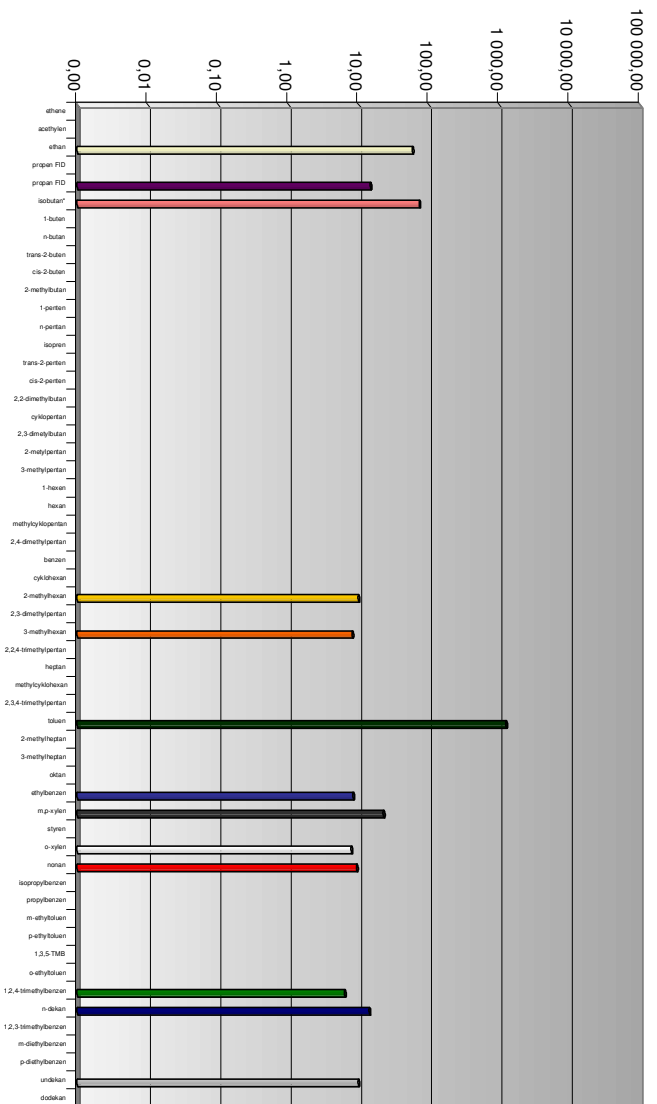
Teplárna E2, Energetika Trinec, a.s. – K3 + K4 (PAH)



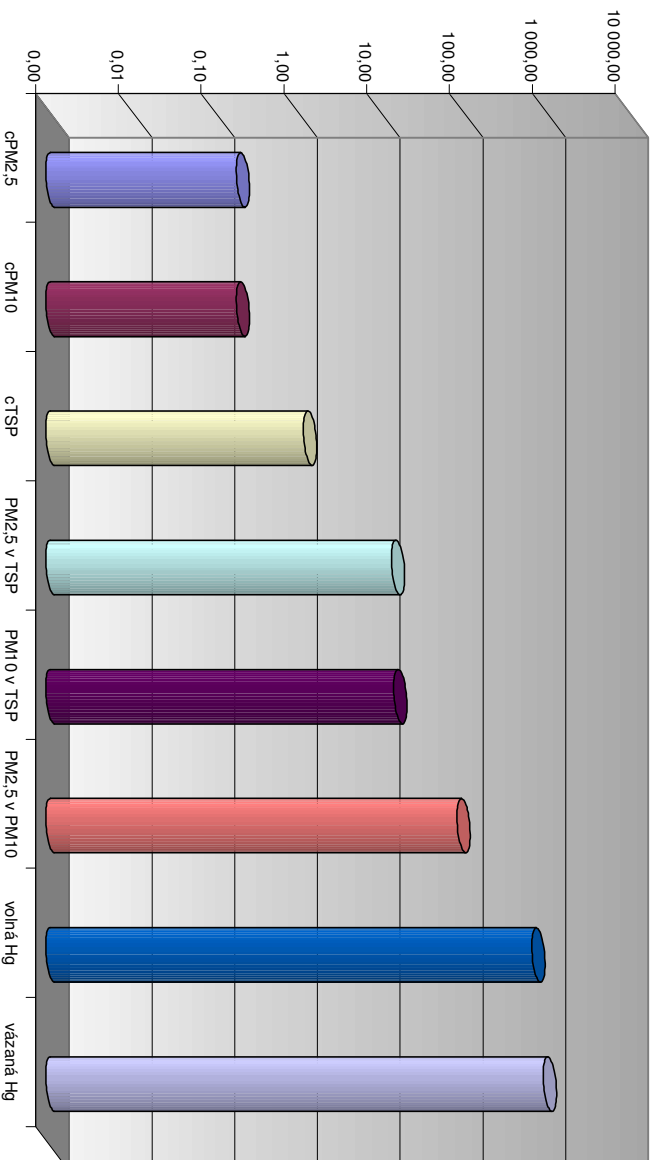
Teplárna E2, Energetika Trinec, a.s. – K3 + K4 (TK)



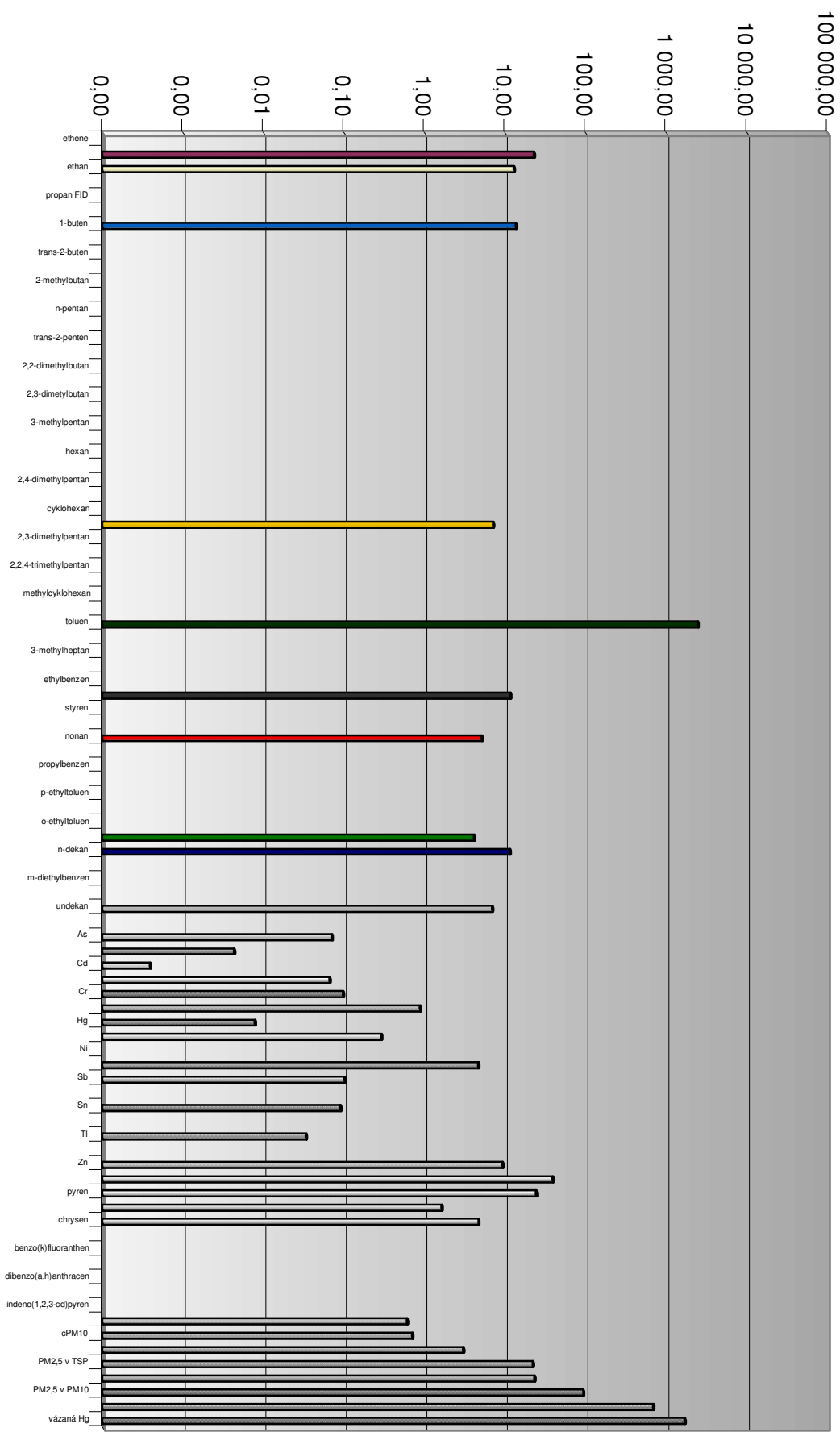
Teplárna E2, Energetika Trinec, a.s. – K3 + K4 (VOC)



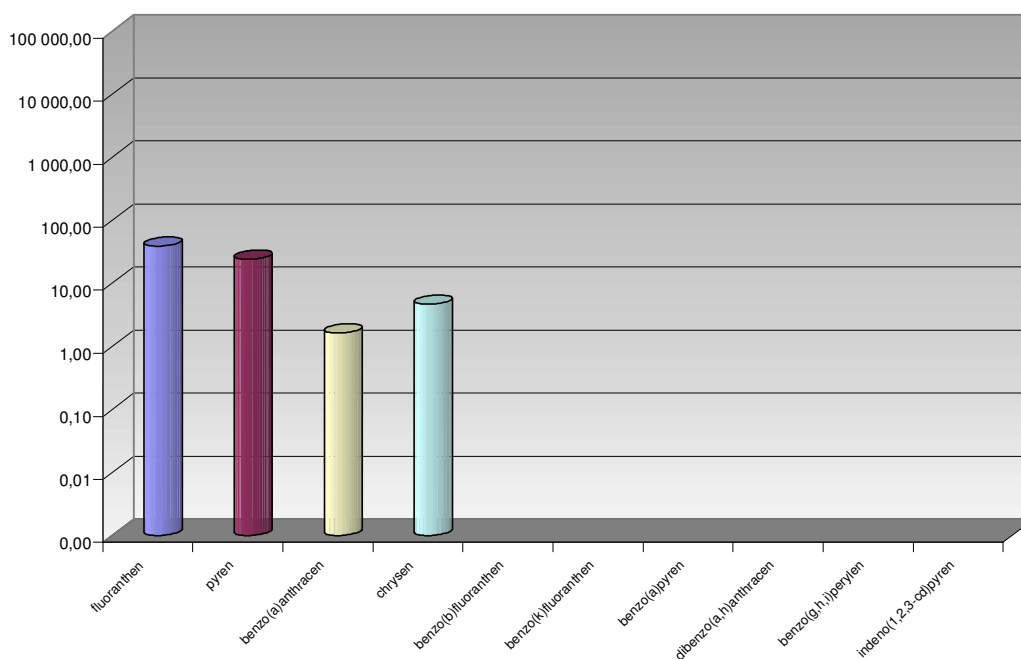
Teplárna E2, Energetika Trinec, a.s. – K3 + K4 (TZL + Hg)



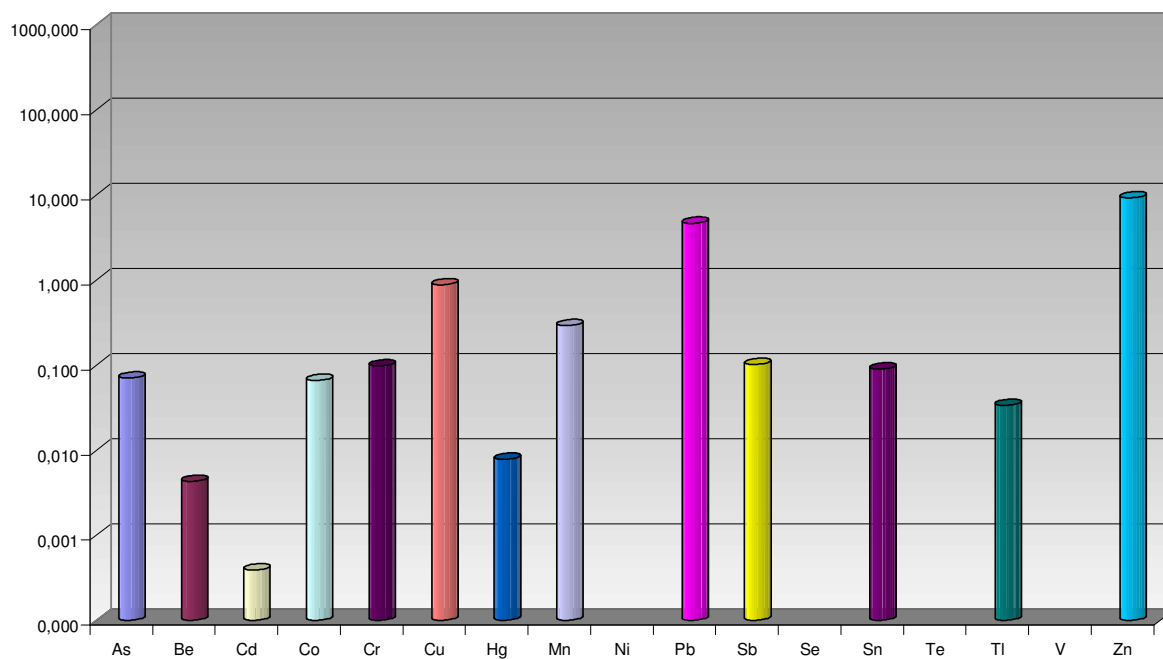
ŽDB,a.s. Bohumín - kotelna



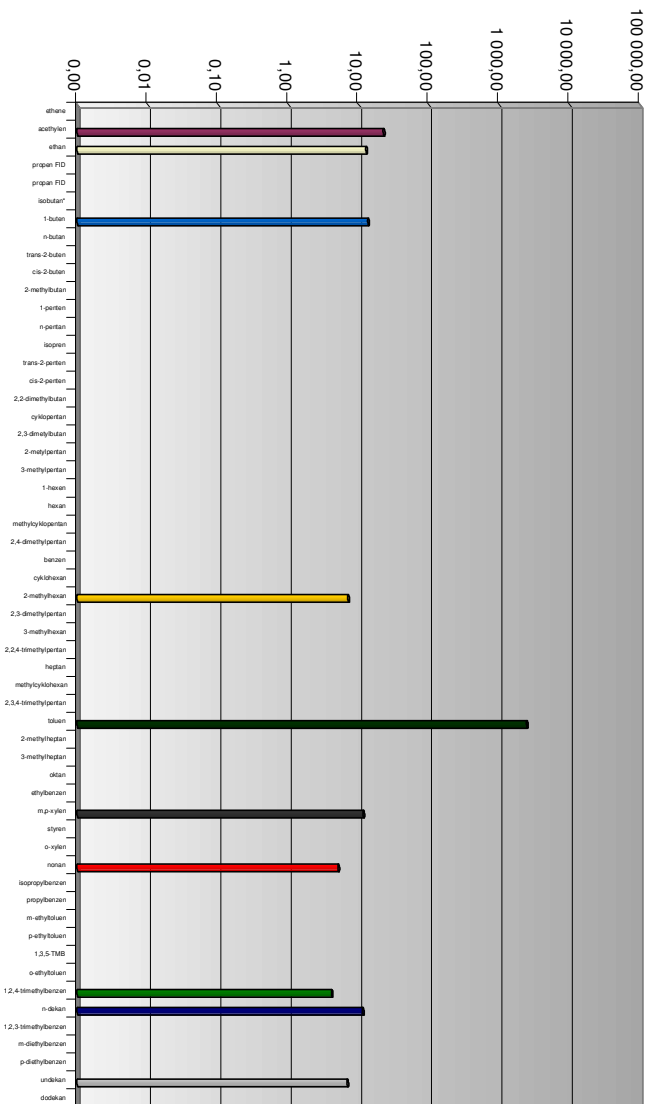
ŽDB,a.s. Bohumín - kotelna (PAH)



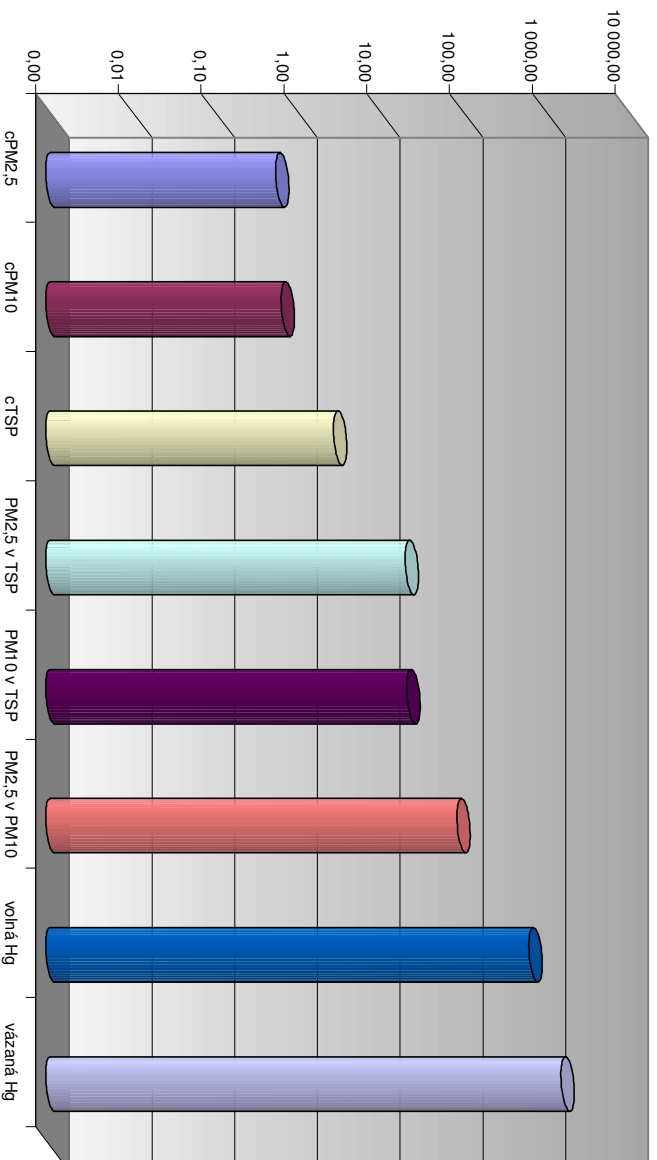
ŽDB,a.s. Bohumín - kotelna (TK)



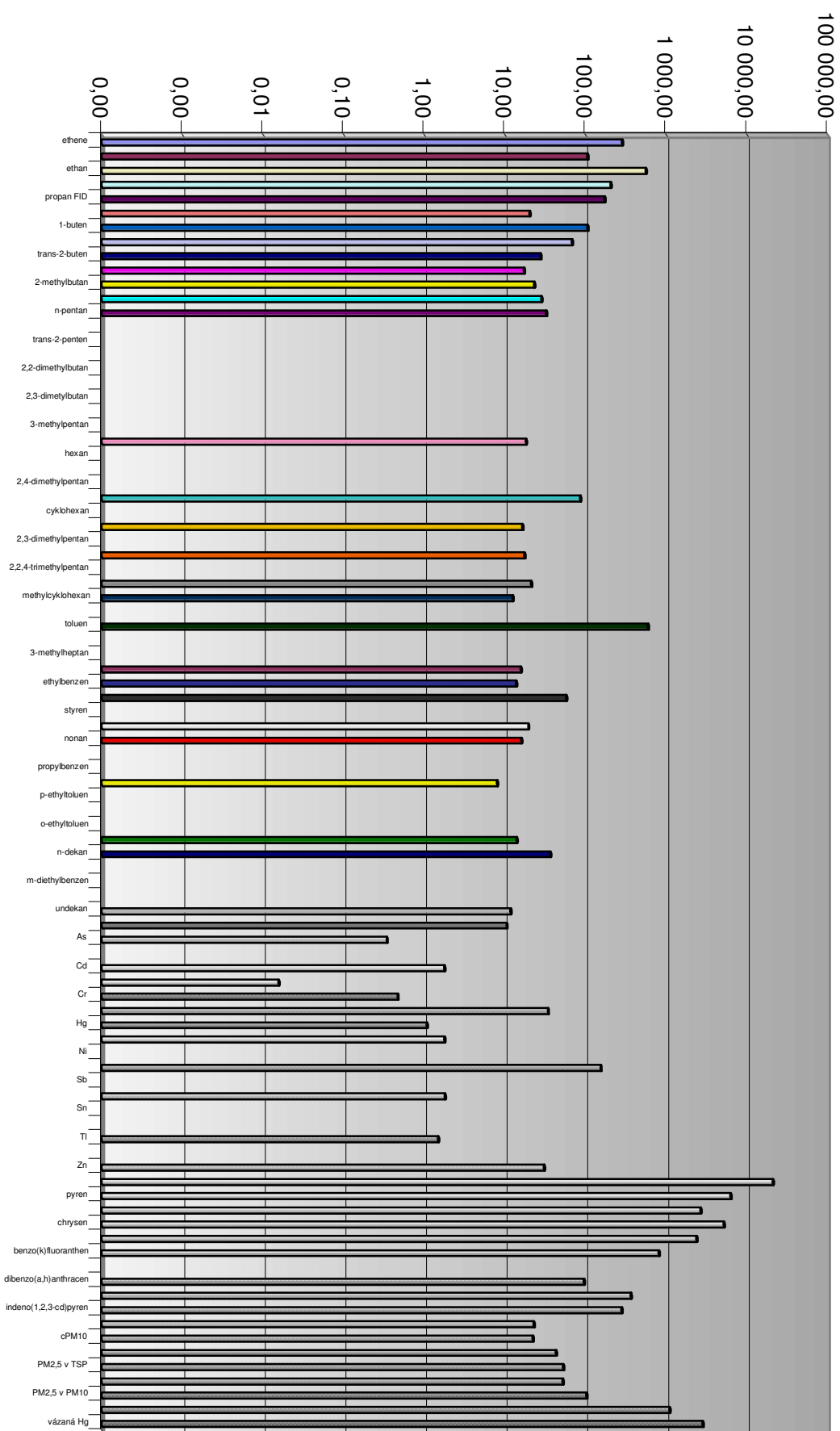
ŽDB,a.s. Bohumín - kotelna (VOC)



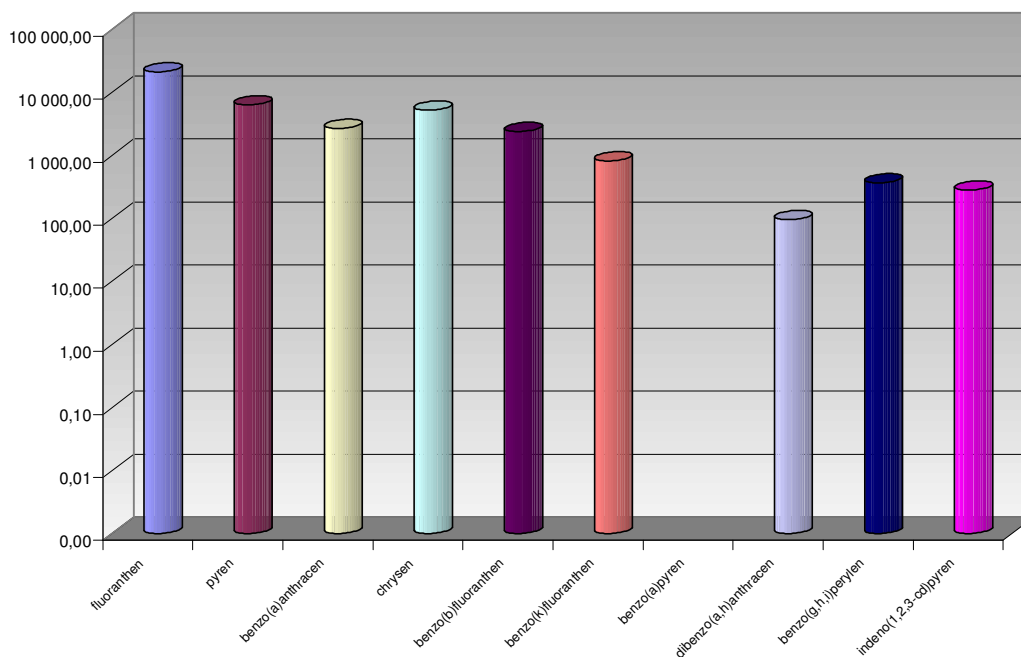
ŽDB,a.s. Bohumín - kotelna (TZL + Hg)



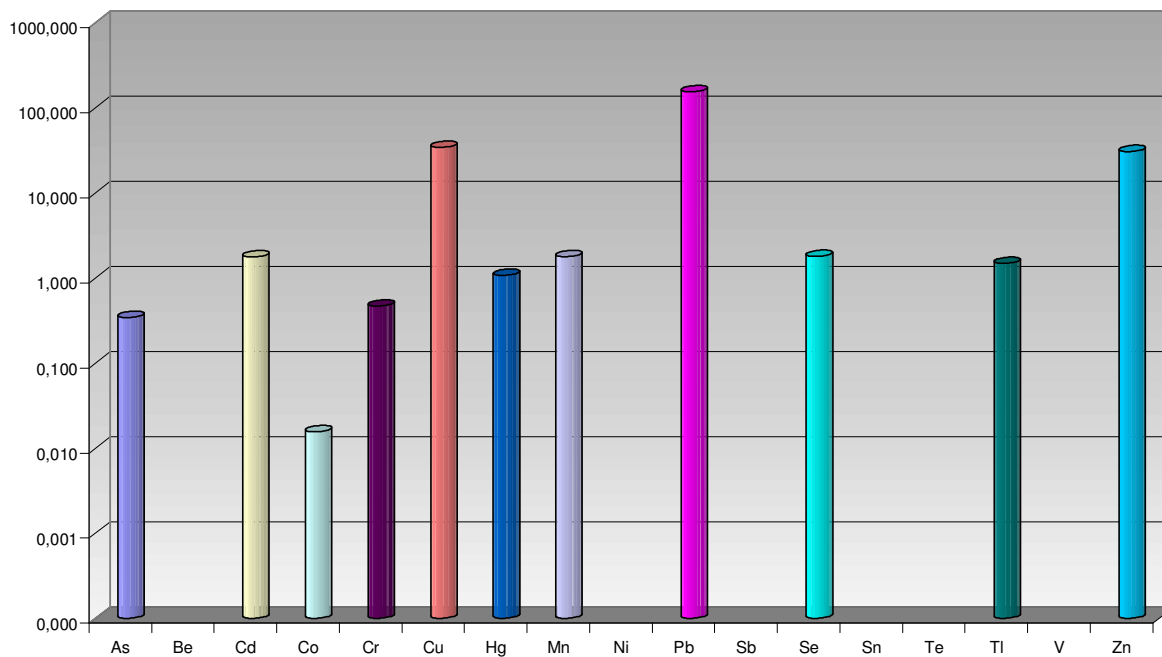
Trinecké železářny, a.s. – Výroba surového železa - spékací pás č.4



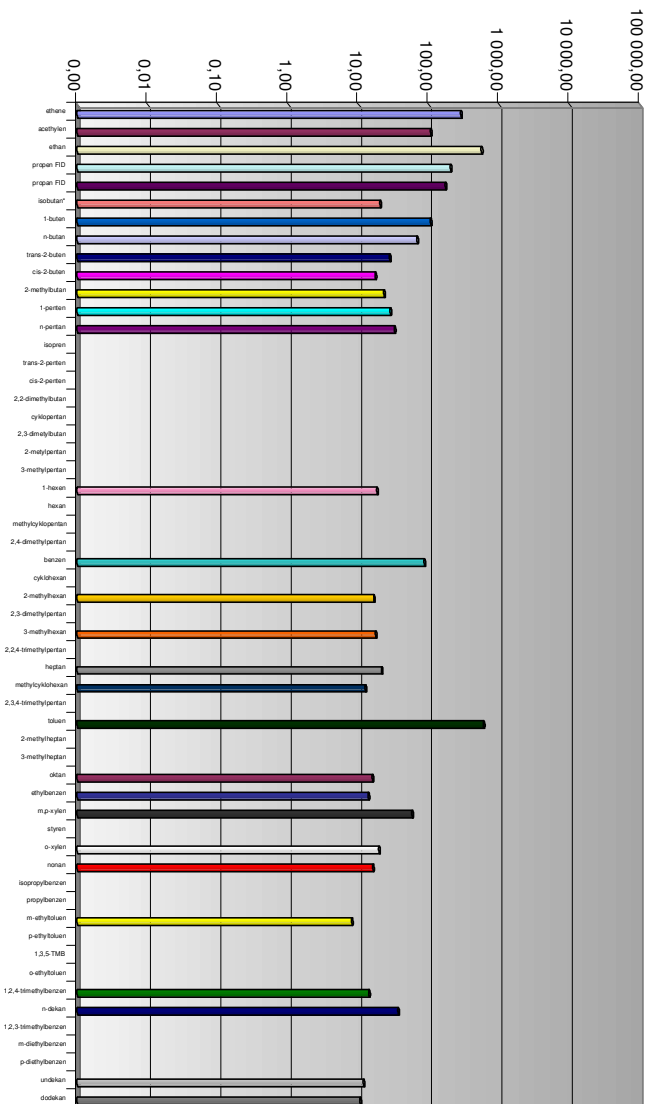
Třinecké železářny, a.s. – Výroba surového železa - spékací pás č.4 (PAH)



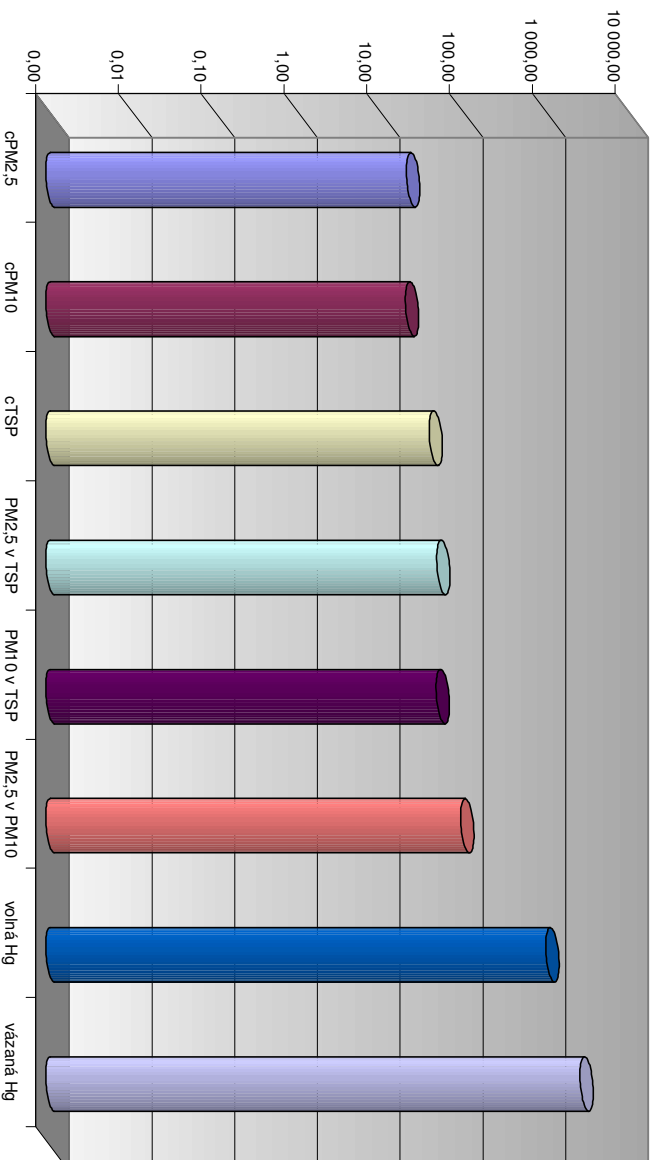
Třinecké železářny, a.s. – Výroba surového železa - spékací pás č.4 (TK)



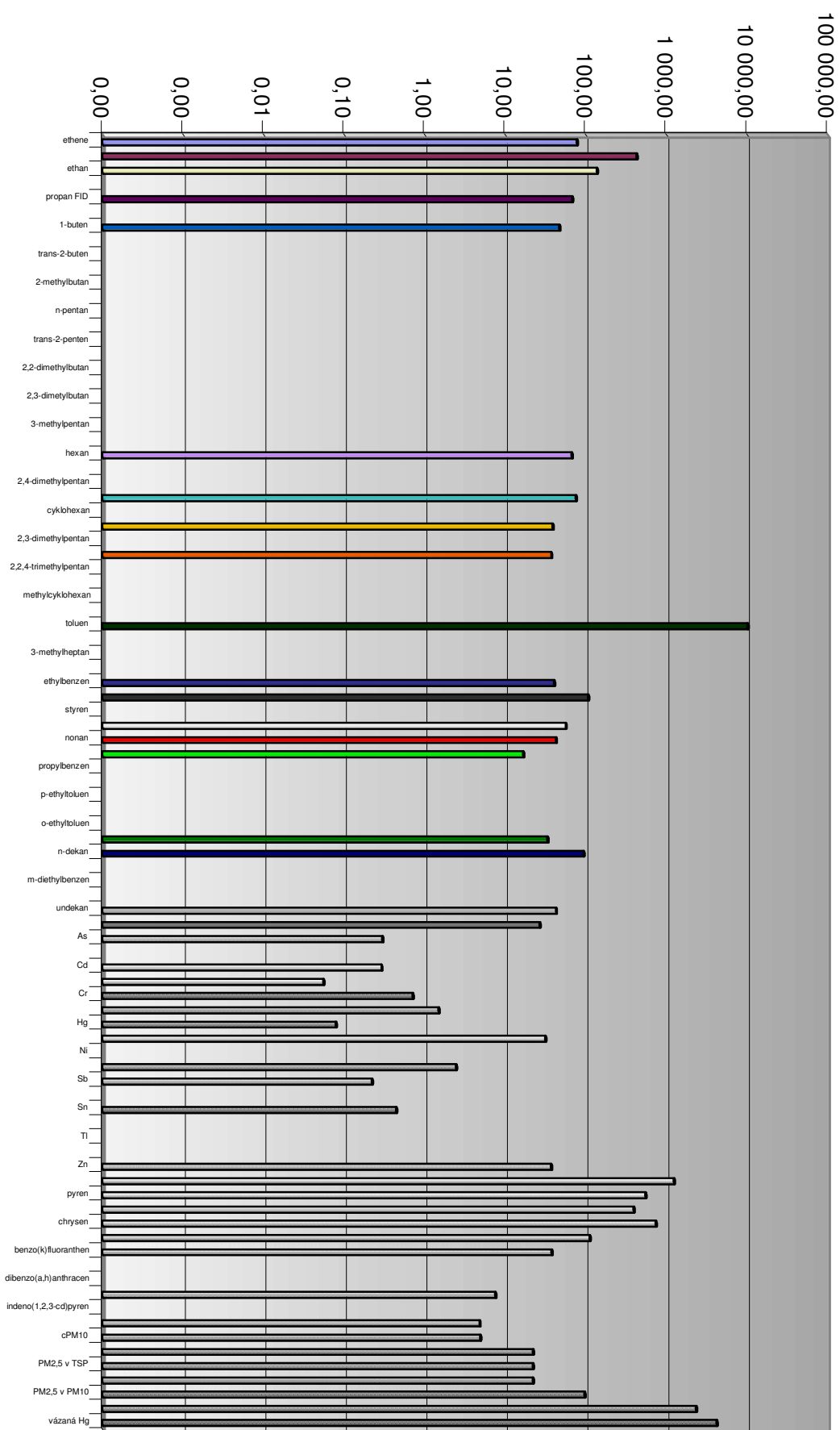
Trinecké železářny, a.s. – Výroba surového železa - spékací pás č.4 (VOC)



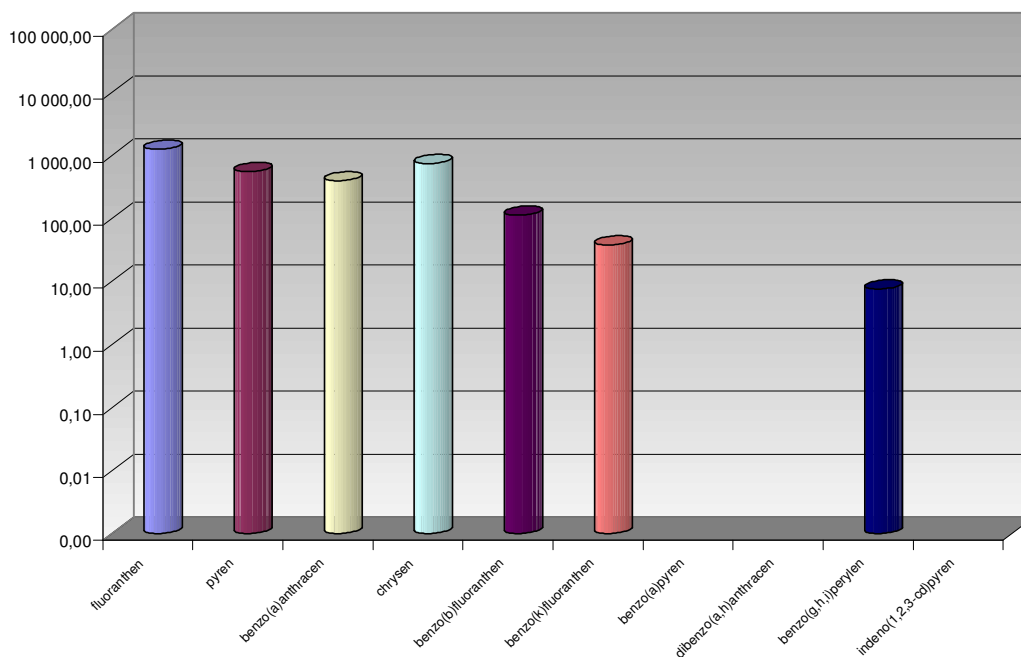
Trinecké železářny, a.s. – Výroba surového železa - spékací pás č.4 (TZL + Hg)



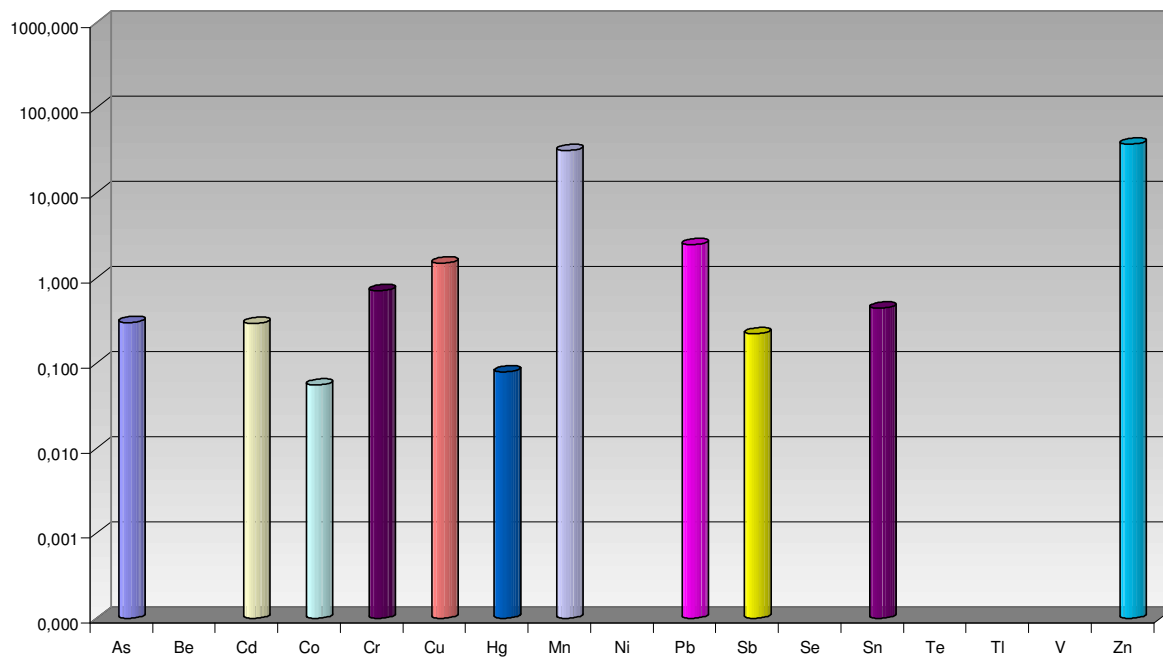
Biocel Paskov a.s.



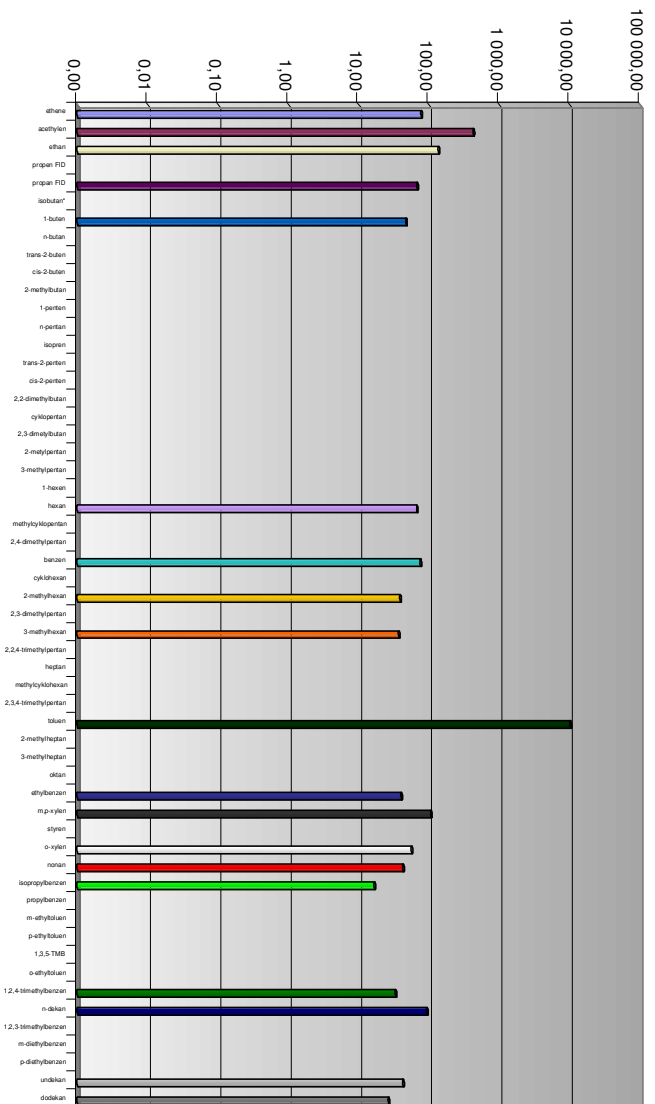
Biocel Paskov a.s. (PAH)



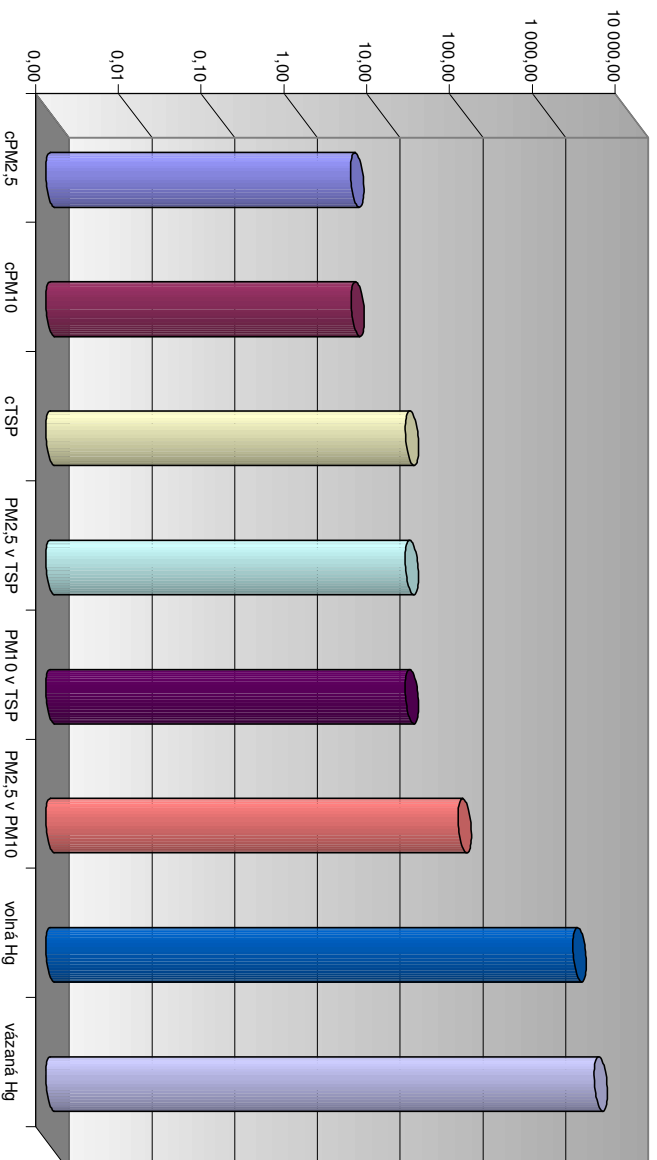
Biocel Paskov a.s. (TK)



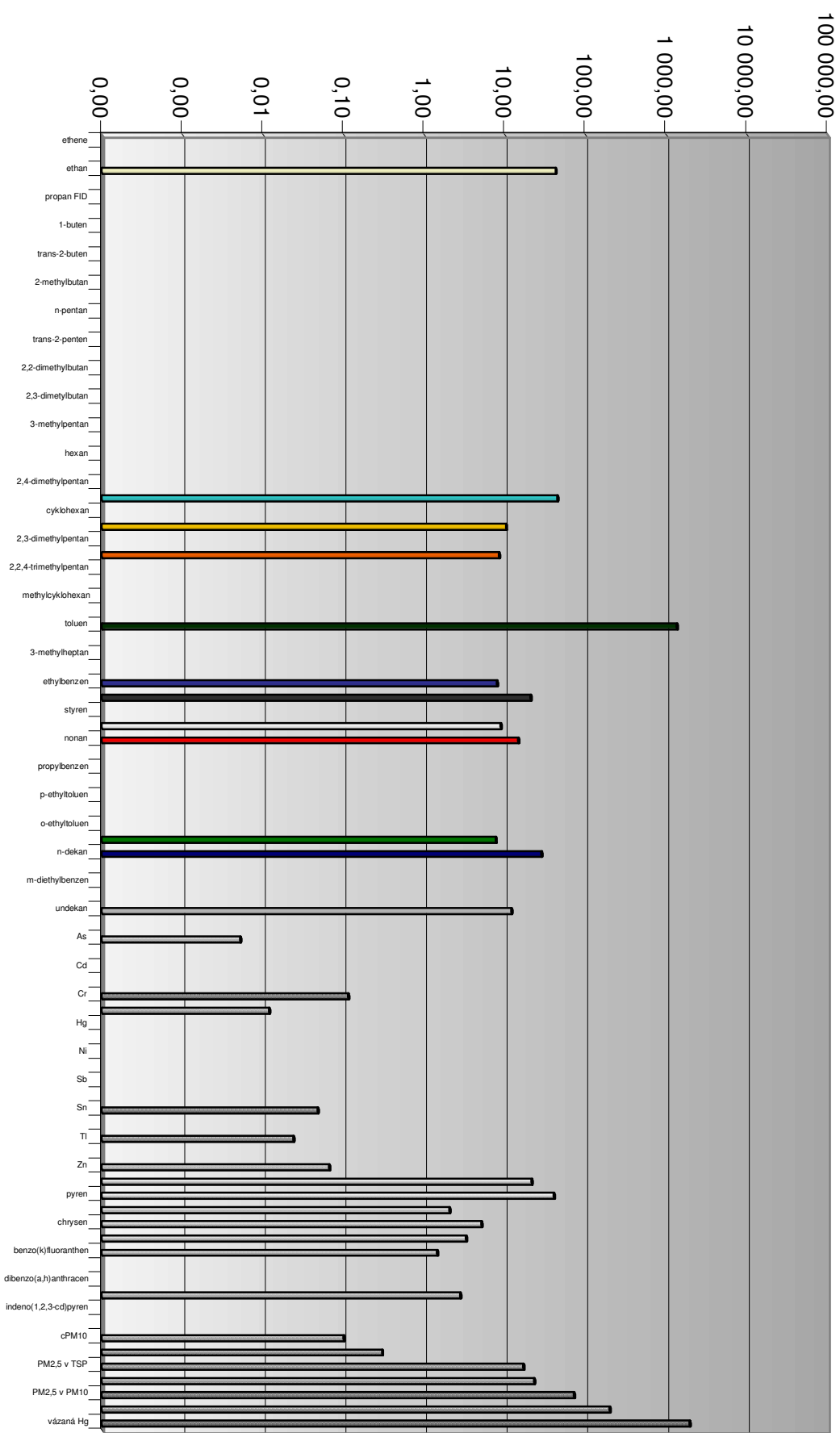
Biocel Paskov a.s. (VOC)



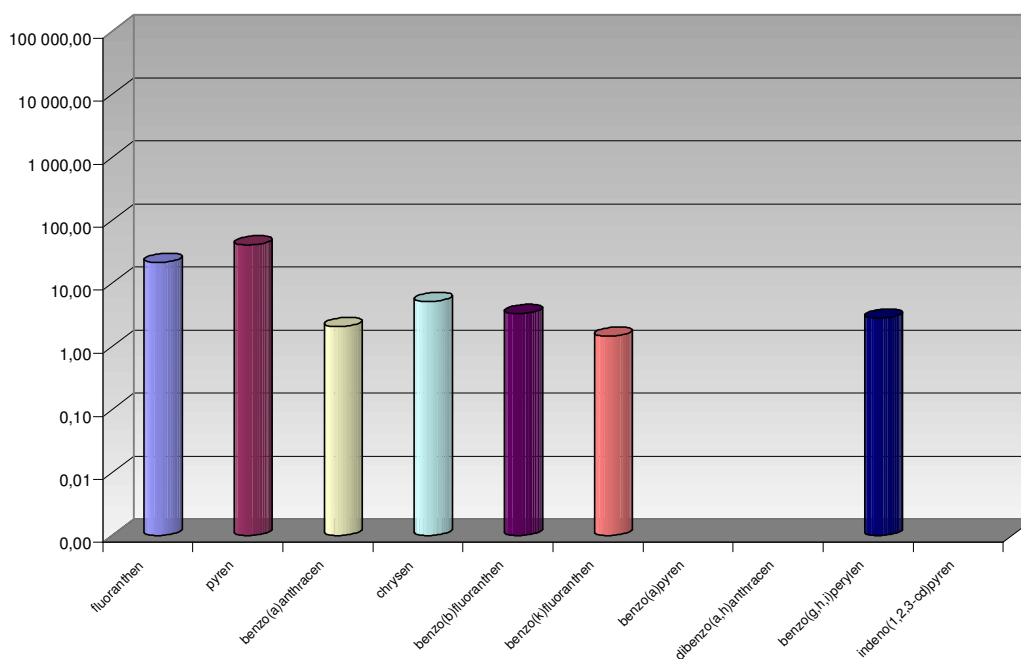
Biocel Paskov a.s. (TZL + Hg)



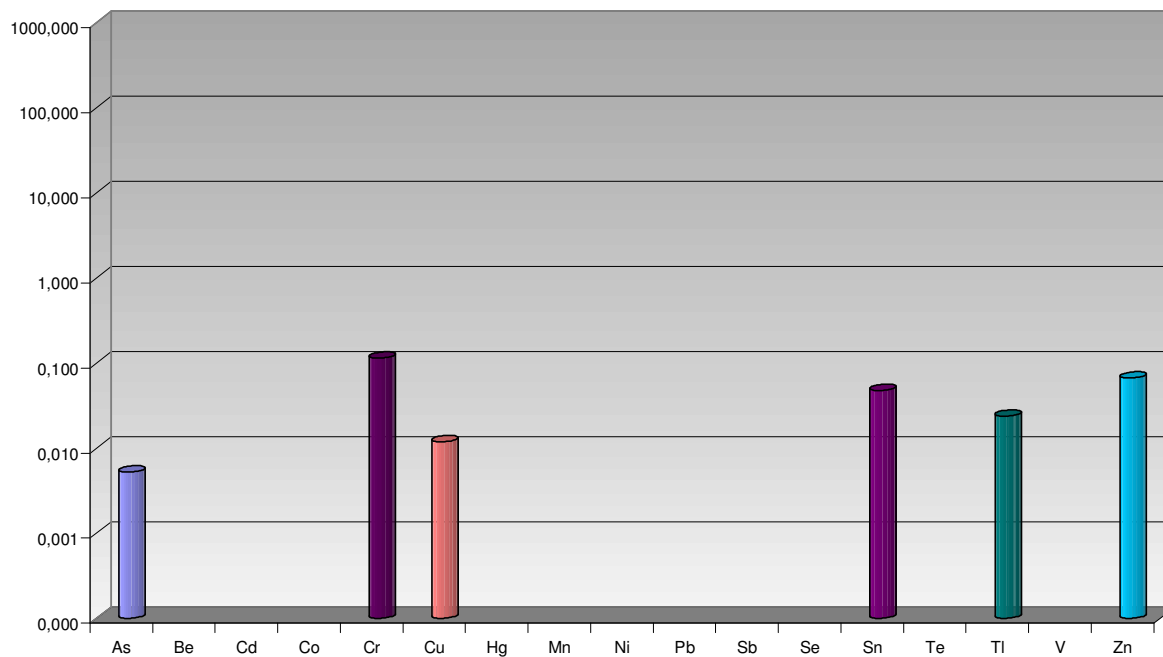
Dalkia Morava, a.s. Teplárna Frydek - Místek - K1



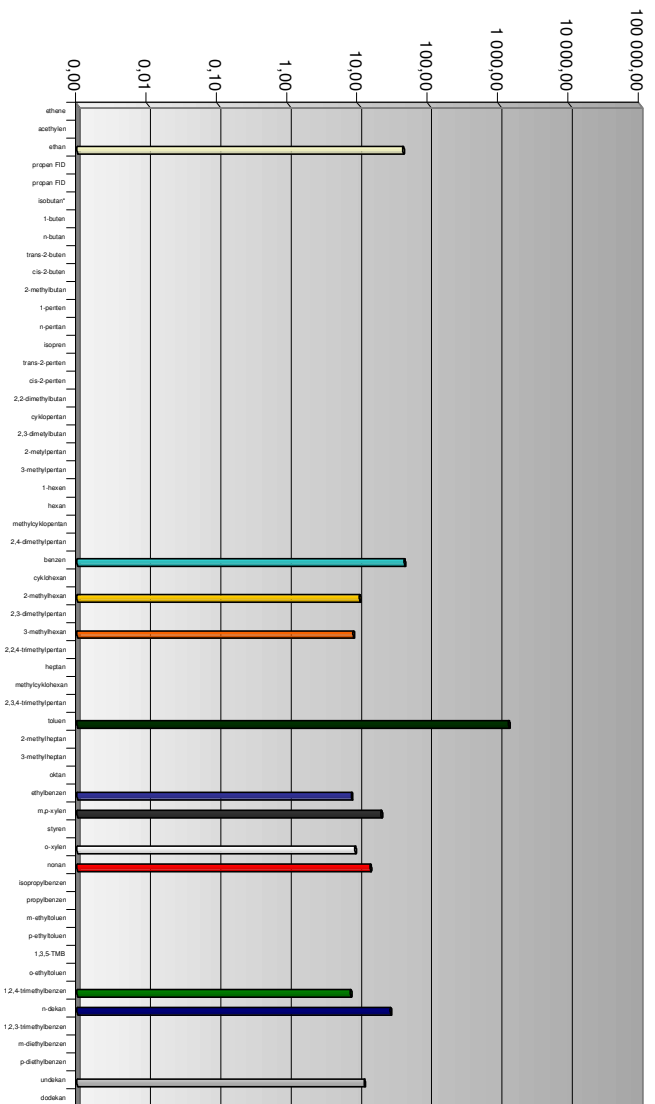
Dalkia Morava, a.s. Teplárna Frýdek - Místek - K1 (PAH)



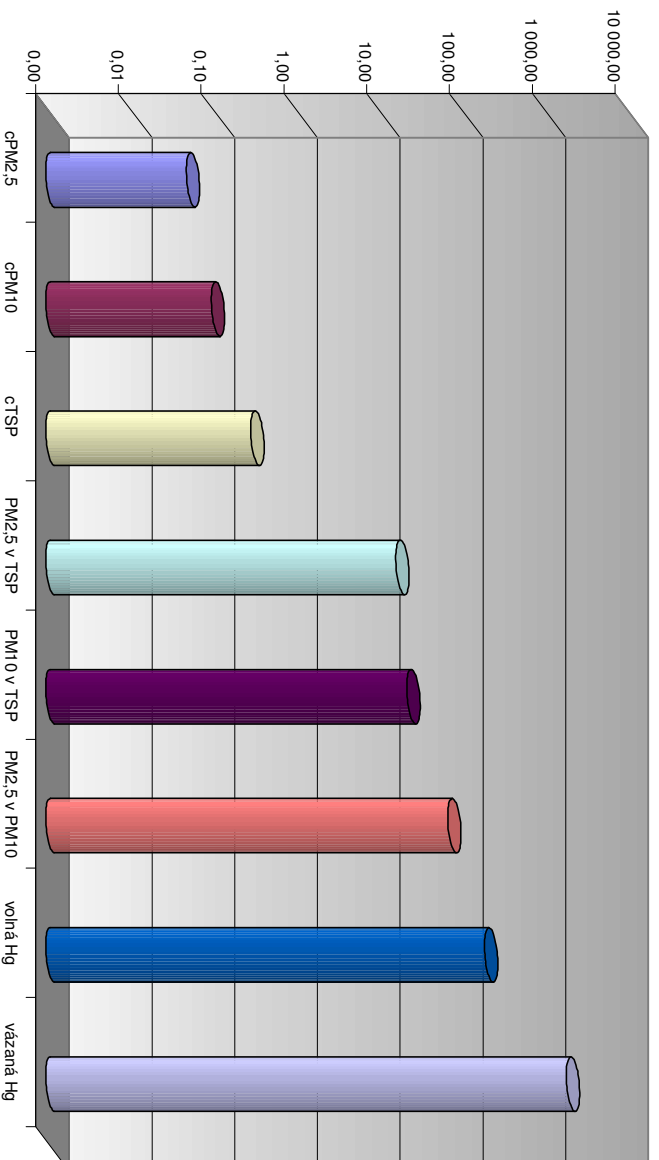
Dalkia Morava, a.s. Teplárna Frýdek - Místek - K1 (TK)



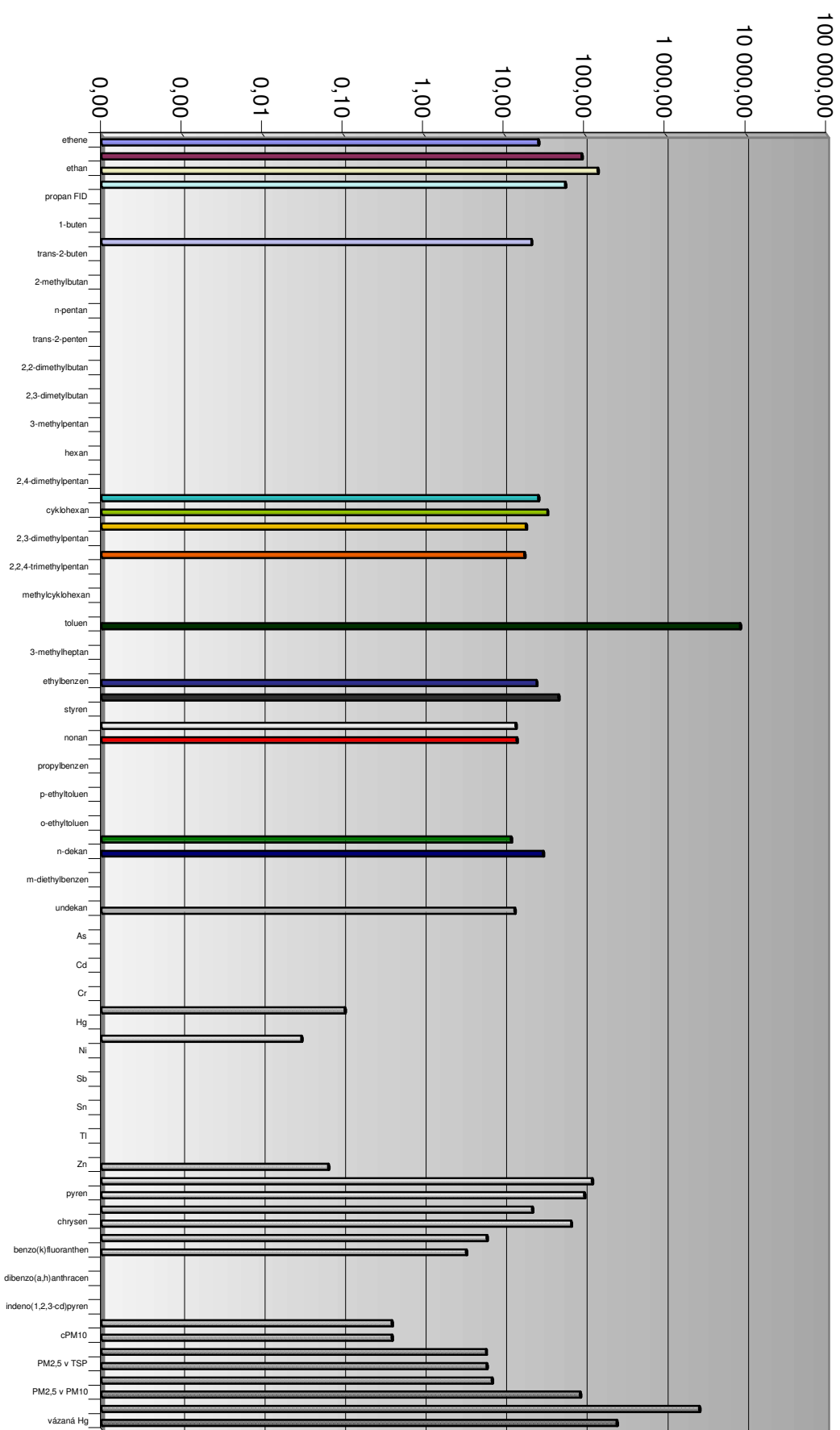
Dalkia Morava, a.s. Teplárna Frydek - Místek - K1 (VOC)



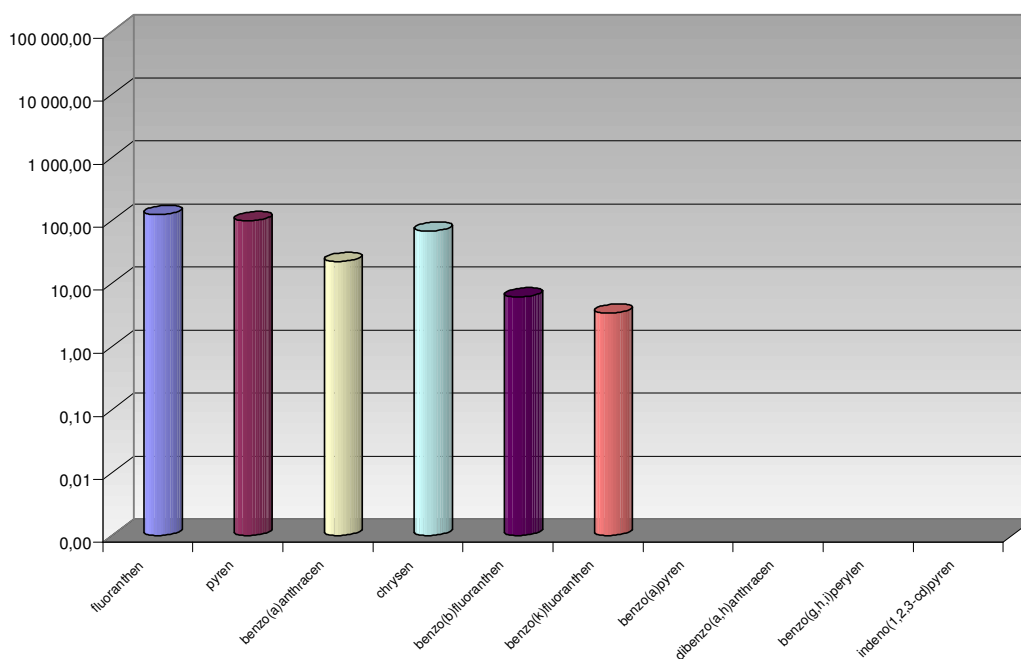
Dalkia Morava, a.s. Teplárna Frydek - Místek - K1 (TZL + Hg)



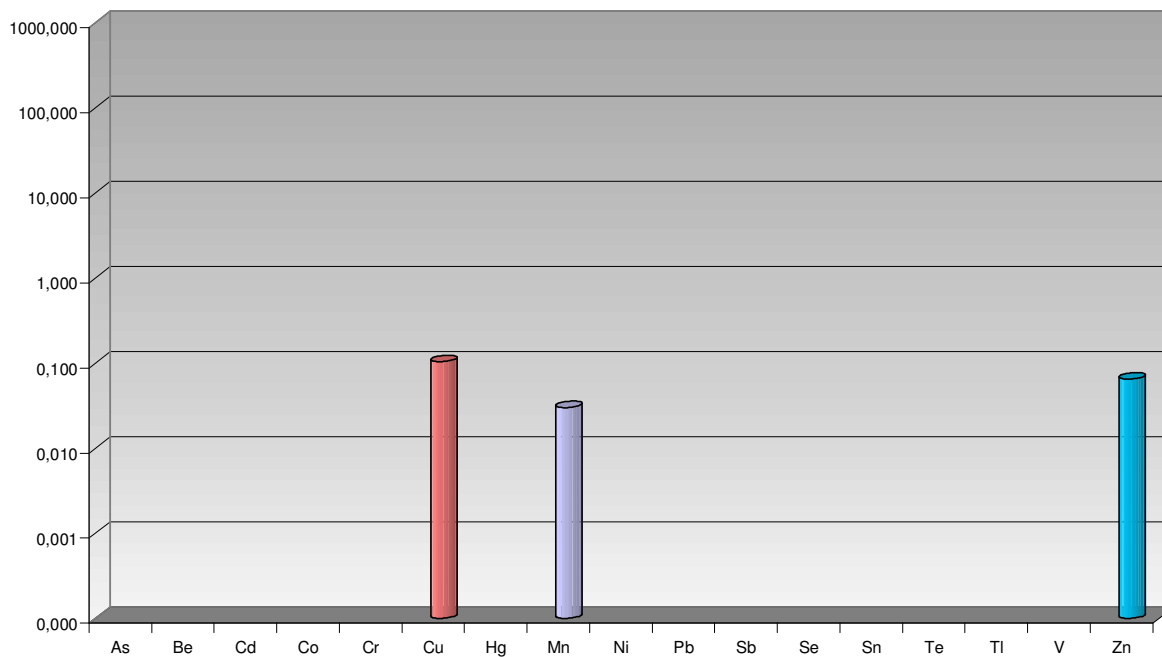
Příbramská teplotenská a.s.



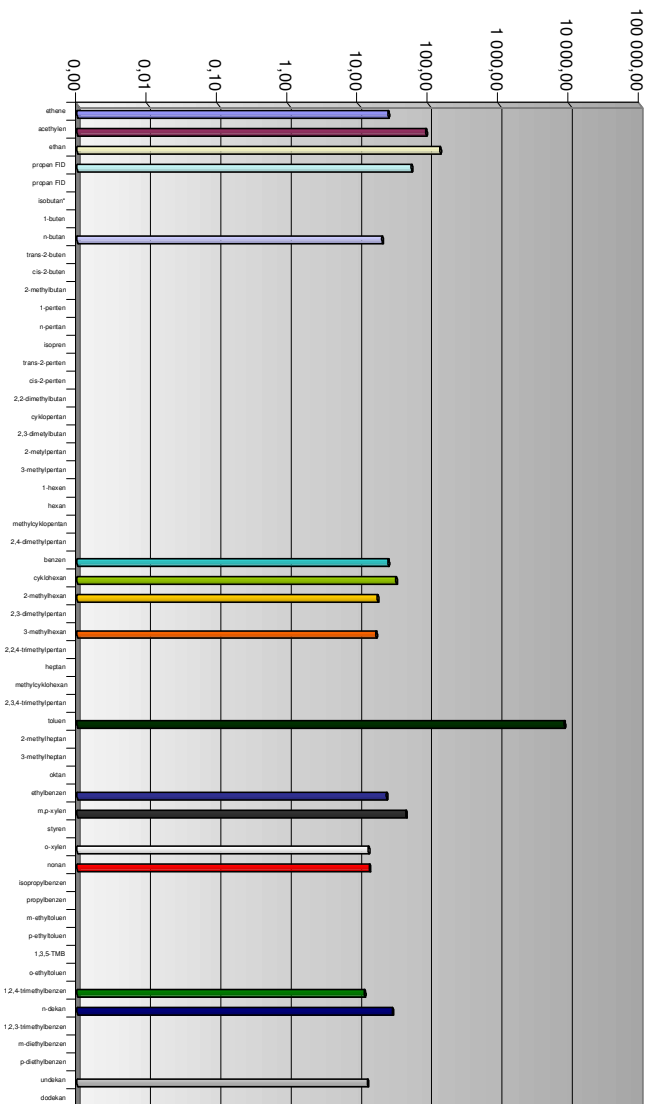
Příbramská teplárenská a.s. (PAH)



Příbramská teplárenská a.s. (TK)



Príbramská teplárenská a.s. (VOC)



Príbramská teplárenská a.s. (TZL + Hg)

